Naming Acids

Remember

- Polyatomic Ions
  - Atoms that are grouped with a charge.
  - Must have at least two different atoms.

Suffix “ate”

- Nitrate: NO_3^-
- Carbonate: CO_3^{2-}
- Sulfate: SO_4^{2-}
- Phosphate: PO_4^{3-}
- Chromate: CrO_4^{2-}
- Chlorate: ClO_3^-

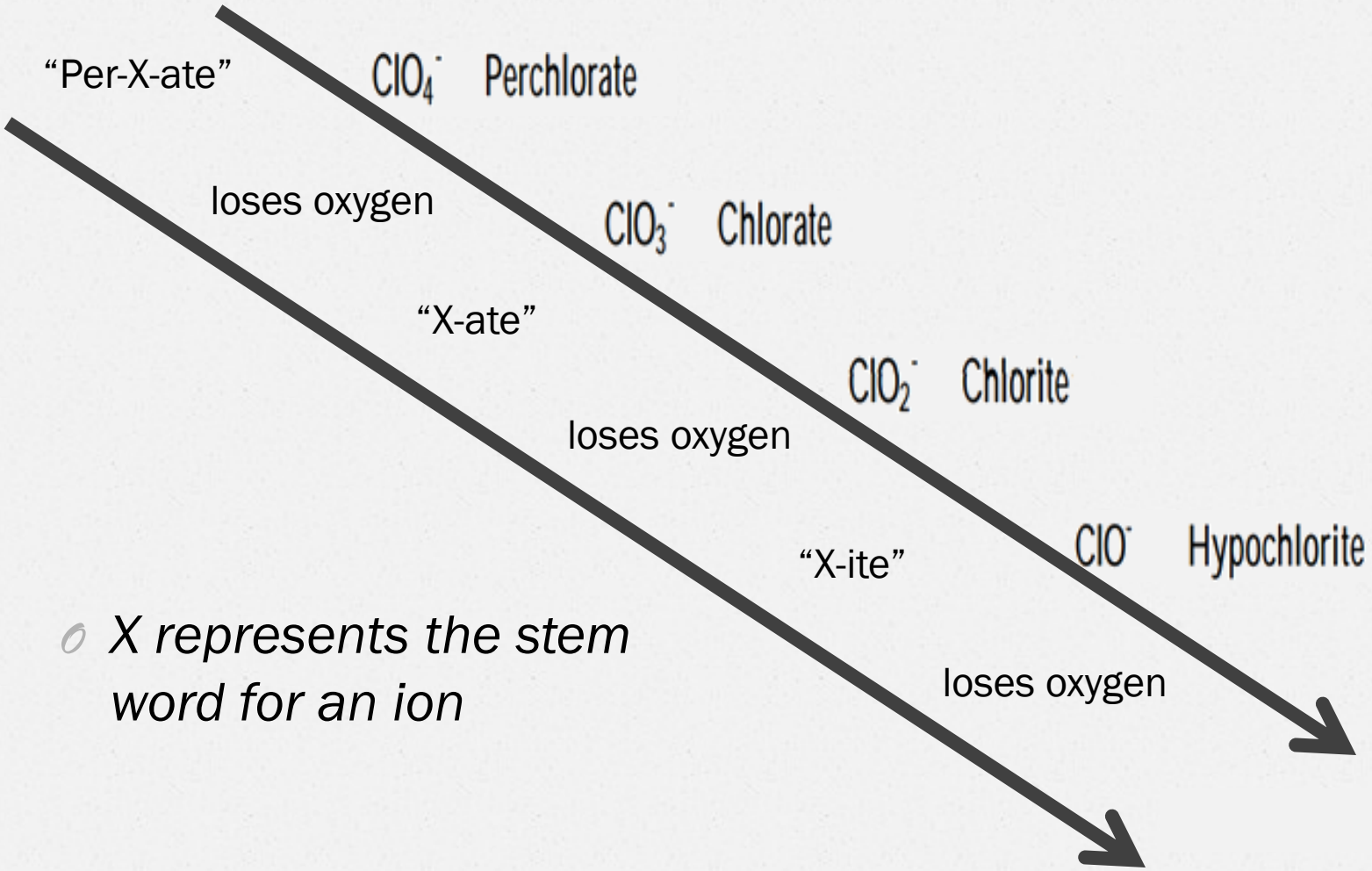
Suffix “ite”

- Nitrite: NO_2^-
- Sulfite: SO_3^{2-}
- Phosphite: PO_3^{3-}

Remember

- Ammonium (NH_4^+) is the only + polyatomic ion you need to know.
- Phosphate (PO_4^{3-}) is the only 3- polyatomic ion you need to know.

Remember



- *X represents the stem word for an ion*

Hints to Naming Acids

- “Per-_____-ate” to “Per-_____-ic Acid”
- “_____-ate” to “_____-ic Acid”
- “_____-ite” to “_____-ous Acid”
- “Hypo-_____-ite” to “hypo-_____-ous Acid”
- “_____-ide” to “hydro-_____-ic Acid”

Hints to Naming Acids

- If you have a MONATOMIC anion:
  - Add the prefix Hydro-
  - Add the suffix –ic
  - Add the word “Acid” to the end

  - “_____-ide” to “Hyrdo-_____-ic Acid”

Writing the Formulas of Acids

- Hydrogen always leads the compound of an acid.
- All acids have hydrogen in the compound.
- Hydrogen atoms are equal to the charge of the polyatomic ion.
- The common compound that begins with hydrogen but isn't an acid is water, H_2O.

Examples

= fluor**ide ion** —(add # of H's equal to negative charge)→ HF*(aq)* = **hydro**fluor**ic acid**

= nitr**ite ion** —(add # of H's equal to negative charge)→ HNO_2*(aq)* = nitr**ous acid**

= nitr**ate ion** —(add # of H's equal to negative charge)→ HNO_3*(aq)* = nitr**ic acid**

For some acids, the stem name changes:

= phosph**ate ion** —(add # of H's equal to negative charge)→ H_3PO_4*(aq)* = phosphor**ic acid**