

Learning Goals

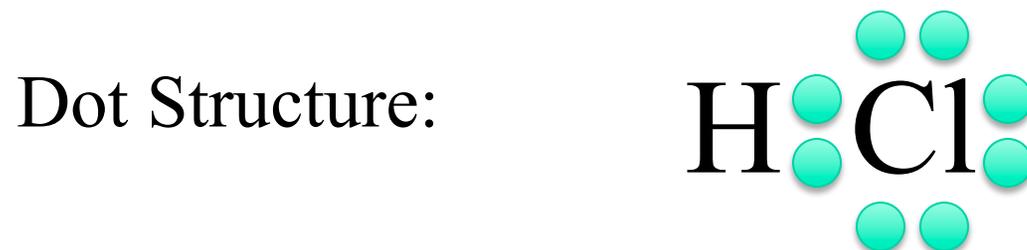
- ▣ You will be able to identify the characteristics of molecular compounds.
- ▣ You will be able to write the names for molecular compounds.
- ▣ You will be able to write the chemical formula for molecular compounds.
- ▣ You will be able to identify the characteristics of acids.
- ▣ You will be able to write the names for binary and oxyacids.
- ▣ You will be able to write the chemical formulas for binary and oxyacids.

Naming Acids

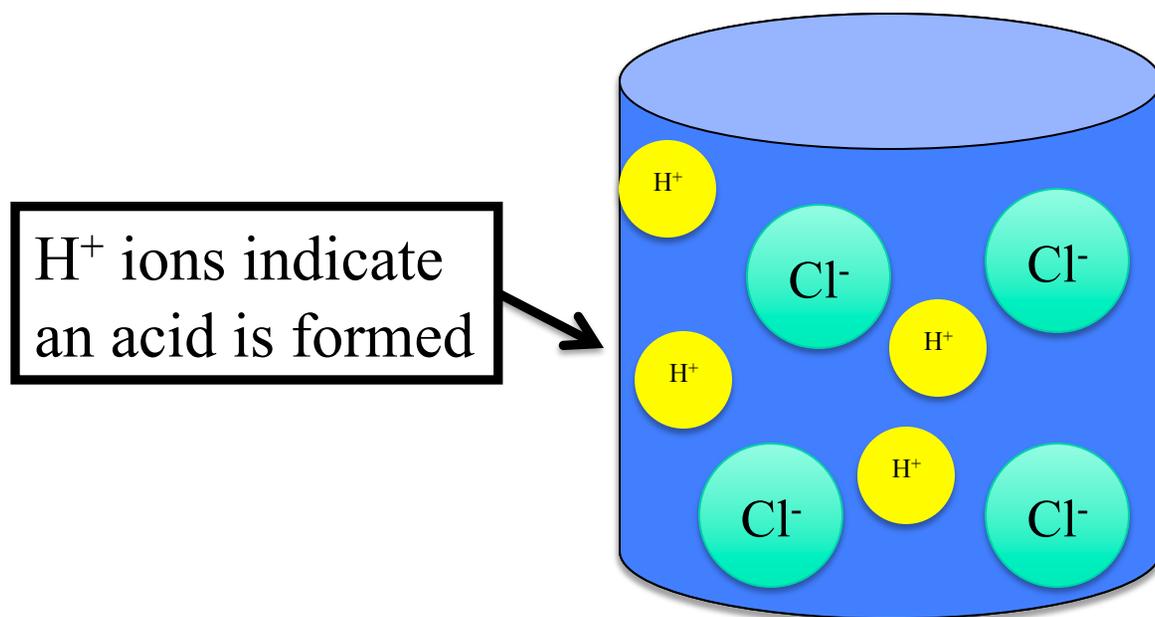
HCl

Ionic or Molecular: Molecular
(both are nonmetals)

Compound Name: hydrogen monochloride



Formation of an Acid



When water is added to a molecular hydrogen compound, the compound ionizes and forms an **acid**.

Common Acids

Sulfuric Acid: Car Battery

Phosphoric Acid: Soft Drinks

Acetic Acid: Vinegar

Naming Binary Acids (Hydrogen + One other element):

1. Use the prefix Hydro
2. Use the root of the anion
3. Change the ending to -ic
4. Add the word acid

Compound Formula	Name undissolved molecular compound	Name of water solution (Acid)
HF	hydrogen monofluoride	hydrofluoric acid
H ₂ S	dihydrogen monosulfide	hydrosulfuric acid

Naming Oxyacids (Hydrogen + Oxyanion)

1. The root word of the anion is used for the acid name.
2. The ending of the anion is changed to reflect the following:
 - if the anion ends in -ate--- the acid name ends in - ic
 - if the anion ends in -ite--- the acid name ends in - ous
3. The word acid is added.

Writing Formulas

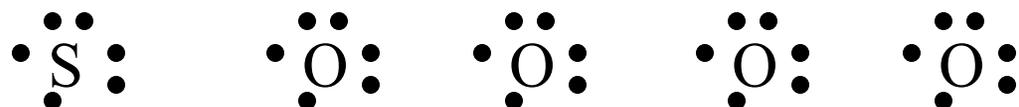
- Identify if it is an oxyacid or a binary Acid
 - OXY – Identify the correct oxyanion from the chart *ate-ic, ite-ous
 - BINARY – Identify the correct anion (single element)
- Balance the charges of Hydrogen and your anion.
- Ex. H^+ and SO_4^{2-} is H_2SO_4

Examples:

Compound	Anion	Anion Name	Acid Name
HNO_3	NO_3^-	nitrate	nitric acid
HClO_2	ClO_2^-	chlorite	chlorous acid

Polyatomic Ions

Example 2: Sulfate (SO_4)²⁻



Total Number of Electrons = 30

Electrons after Ion Forms = 32

Ionic Dot Structure:

