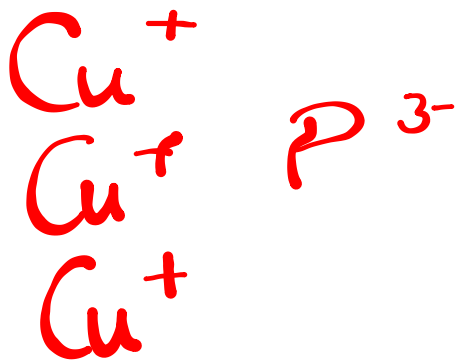


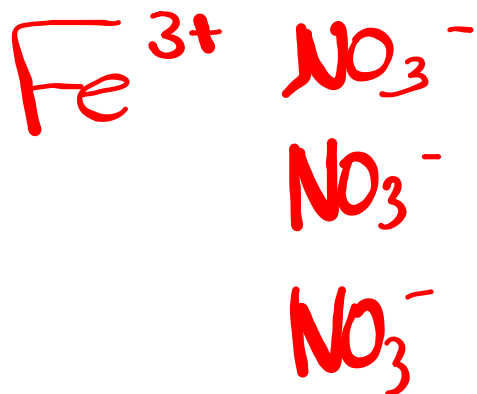
# Worksheets



copper(I) phosphide

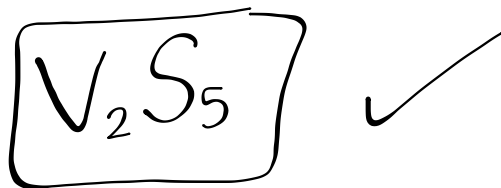
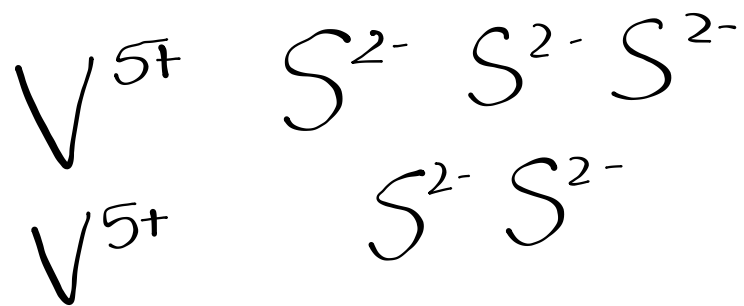


gallium arsenide

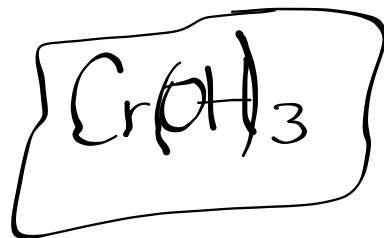
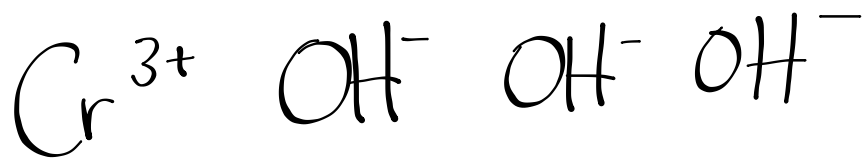


iron(III) nitrate

16) vanadium (V) sulfide



17) chromium (III) hydroxide



# Ionic Hydrates

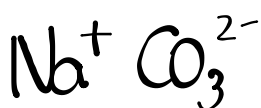
IONIC HYDRATES - are ionic compounds that have one or more water molecules loosely attached.

Hydrates are named by

[a] stating the name of the ionic compound

[b] following this with hydrate to which the prefix for the number of waters has been added.

Ex.  $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}_{(s)}$



Sodium carbonate decahydrate

or  
Sodium carbonate - 10-water

# Molecular Compounds

MOLECULAR THEORY -**nonmetal** atoms share electrons in a **covalent bond** to attain a maximum number of valence electrons (complete outer shell) rather than gaining electrons from metal atoms.

Ex.  $\text{CO}_2$

Molecular elements- although the chemical formula of metals are frequently shown alone as a single atom (Na), nonmetals frequently form **diatomic molecules**.

Ex.  $\text{H}_2$ ,  $\text{N}_2$ ,  $\text{O}_2$ ,  $\text{F}_2$ ,  $\text{Cl}_2$ ,  $\text{Br}_2$ ,  $\text{I}_2$

Also:  $\text{O}_3$ ,  $\text{P}_4$ ,  $\text{S}_8$

## Naming *Binary molecular compounds*

As outlined by IUPAC rules, some molecular compounds signify the number of atoms in the molecular formula by using the same prefixes as hydrates.

Ex.  $\text{CS}_2$       Carbon disulfide

see Table 9.4 p. 269

The prefix system is usually not used for hydrogen molecular compounds

Ex. water -  $\text{H}_2\text{O}$

$N_2O \rightarrow$  dinitrogen monoxide

$P_2F_5 \rightarrow$  diphosphorous pentafluoride

Br HONCIFI

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# Quiz