

# UNIT LEARNING GOAL

Throughout this mini unit we will be focusing on our overall goal of communication:

**Students will communicate scientific thought using appropriate conventions, terminology and concepts.**



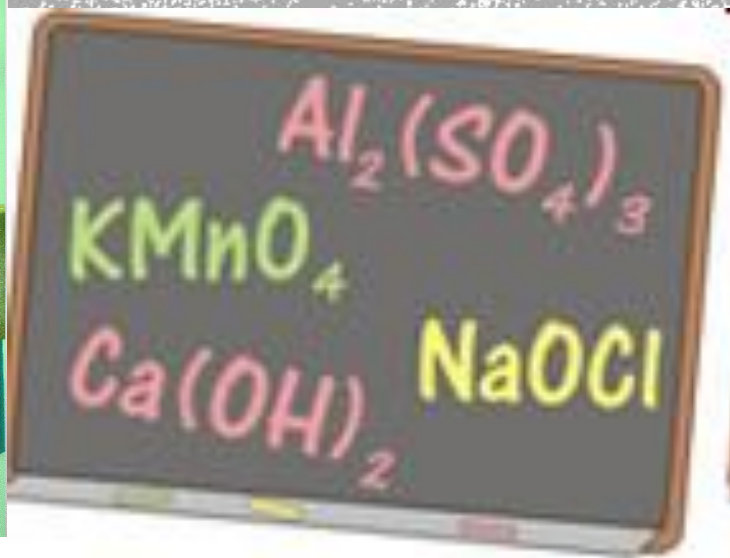
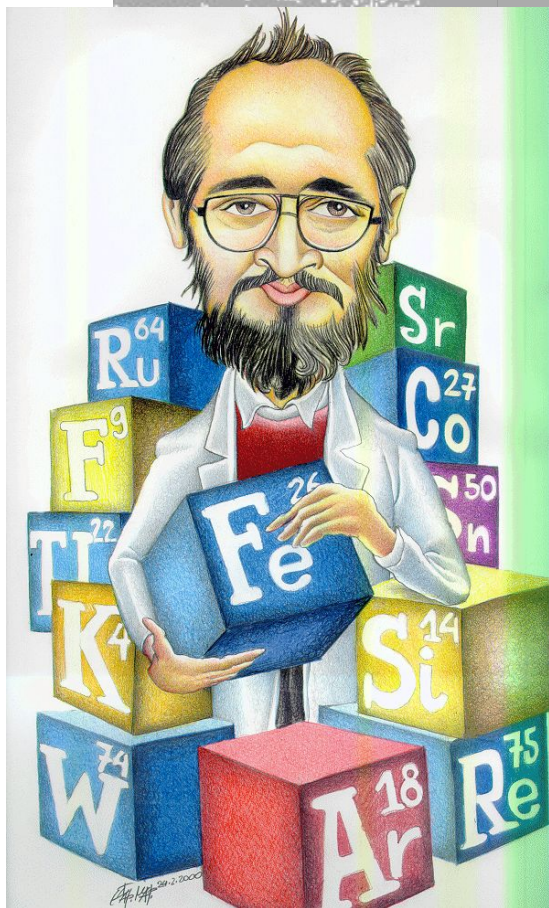
# TO HELP SUPPORT THIS GOAL TODAY'S LEARNING GOALS ARE...

- We are learning to **write chemical formulae for hydrates and peroxides.**
- We are **learning to name these compounds** using the International Union of Pure and Applied Chemistry (**IUPAC**).



# NOMENCLATURE

HYDRATES  
PEROXIDES



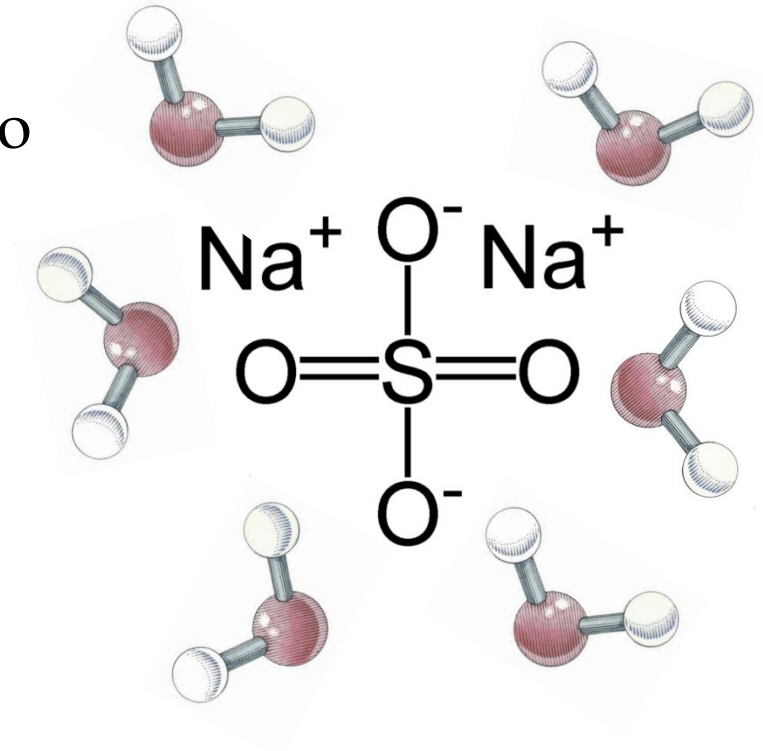
# HYDRATES

- Are examples of Ionic Compounds
- Crystallize from a water solution such that water molecules stick to the crystals
- Called “Hydrates”
- Exist in **specific ratio** of compound : water



# HYDRATES

- A **dot** expresses how many water molecules are attached to the compound
- $\text{Na}_2\text{SO}_4 \cdot 6\text{H}_2\text{O}$
- 6 molecules of water attach to Sodium Sulphate

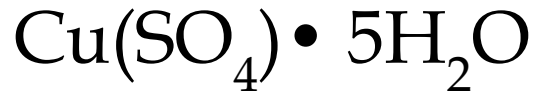


# NAMING HYDRATES

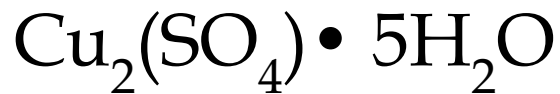
- Name the compound before the dot
- Name the water using **prefix** (# of water molecules) followed by the word “hydrate”
- $\text{Na}_2\text{SO}_4 \cdot 6\text{H}_2\text{O}$
- Sodium sulphate **hexa**hydrate



# HYDRATES



- Copper (II) sulphate pentahydrate



- Copper (I) sulphate pentahydrate

Barium chloride dihydrate

- $\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$



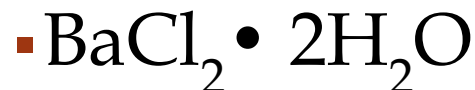
# LAST WORDS ON HYDRATES

- The water can be removed from some hydrates
- Called **ANHYDROUS** compounds

**Anhydrous Barium Chloride**



**Barium chloride dihydrate**





# PEROXIDES

- Contains O-O single bond ( $\text{O}_2$ ) ;  $\text{O}_2$  has a 2- charge

$\text{H}_2\text{O}_2$  is Hydrogen peroxide

$\text{MgO}_2$  is Magnesium peroxide

$\text{CaO}_2$  is Calcium peroxide

- *NOTE:  $\text{Mg} + \text{O}$  usually makes  $\text{MgO}$   
 $\text{Ca} + \text{O}$  usually makes  $\text{CaO}$*



# SUCCESS CRITERIA

- **At the end of this lesson...**
- ☐ I can **write chemical formulae for hydrates and peroxides.**
- ☐ I can **name these compounds** using the IUPAC system.

