Calcium dihydrogen phosphate

Ca^{2+}

PO_4^{3-}

$H_2PO_4^-$

$Ca(H_2PO_4)_2$

Mg^{2+}

HS^- bisulfide

S^{2-} sulfide

$Mg(HS)_2$ ✓ $MgHS_2$ ✗

Al^{3+}

HPO_4^{2-} biphosphate

PO_4^{3-} phosphate

$Al_2(HPO_4)_3$

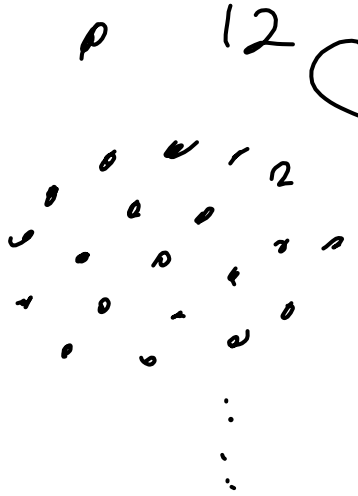
HYDRATED SALTS

$CuSO_4$ copper(II) sulfate
cupric sulfate

$CuSO_4 \cdot 5H_2O$
copper(II) sulfate pentahydrate
cupic sulfate pentahydrate

Supply the missing information in the following table

NAME (use Stock if applicable)	-ic/-ous if applicable	FORMULA
calcium chloride dihydrate	—	$CaCl_2 \cdot 2H_2O$
iron(III) chloride trihydrate	ferric chloride trihydrate	$FeCl_3 \cdot 3H_2O$
sodium carbonate decahydrate	—	$Na_2CO_3 \cdot 10H_2O$



^{12}C mass = 12 amu

mass = 12 g

6.022×10^{23}

Mole: The number of ^{12}C atoms in exactly 12 g of ^{12}C.

One mole of <u>ANYTHING</u> will weigh in grams, the same as one particle in amu. (Assuming all particles have the same mass)

If the particles don't all have the same mass, then a mole of those particles will weigh the same in grams as the AVERAGE particle mass in amu.

How many moles of Mg atoms are present in 53.14 g of Mg?

$$53.14\ \text{g Mg} \left(\frac{1\ \text{mol Mg}}{24.31\ \text{g Mg}} \right)$$

$$= 2.186\ \text{mol Mg}$$

What is the mass of 3.198 mol of Fe?

$$\frac{3.198 \text{ mol Fe}}{1}\left(\frac{55.85 \text{ g Fe}}{1 \text{ mol Fe}}\right)$$

$$= 178.6 \text{ g Fe}$$

How many Al are present in 2.173 mol of Al?

$$2.173 \text{ mol Al} \left(\frac{6.022 \times 10^{23} \text{ Al atoms}}{1 \text{ mol Al}} \right)$$

$$= 1.309 \times 10^{24} \text{ Al atoms}$$