

Section 2.4

Warm Up

	Br^-	O^{2-}	N^{3-}	OH^-	SO_4^{2-}	PO_4^{3-}
Na^+	NaBr	Na_2O	Na_3N	NaOH	Na_2SO_4	Na_3PO_4
Ca^{2+}	CaBr_2	CaO	Ca_3N_2	Ca(OH)_2	CaSO_4	$\text{Ca}_3(\text{PO}_4)_2$
Al^{3+}	AlBr_3	Al_2O_3	AlN	Al(OH)_3	$\text{Al}_2(\text{SO}_4)_3$	AlPO_4
NH_4^+	NH_4Br	$(\text{NH}_4)_2\text{O}$	$(\text{NH}_4)_3\text{N}$	NH_4OH	$(\text{NH}_4)_2\text{SO}_4$	$(\text{NH}_4)_3\text{PO}_4$
Sn^{4+}	SnBr_4	SnO_2	Sn_3N_4	Sn(OH)_4	$\text{Sn(SO}_4)_2$	$\text{Sn}_3(\text{PO}_4)_4$

Practice Problems – Determining the Names and Formulas of Binary Ionic Compounds

- Li_2S
 - CrO
 - AlCl_3
 - PbS
 - SnI_2
 - ZnBr_2
- zinc oxide
 - lead(IV) chloride
 - copper(II) chloride
 - sodium iodide
 - potassium sulphide
 - chromium(II) oxide

Practice Problems – Determining the Names and Formulas of Ionic Compounds

- BaSO_4
 - AgNO_3
 - HgBr_2
 - $\text{Sn(C}_2\text{O}_4)_2$
 - $\text{Al}_2(\text{Cr}_2\text{O}_7)_3$
 - KF
- zinc hydroxide
 - tin(II) oxide
 - copper(II) hypochlorite
 - sodium ethanoate or sodium acetate
 - magnesium iodide
 - iron(II) dichromate

Practice Problems – Determining the Names and Formulas of Molecular Compounds

- NO
 - NO_2
 - N_2O_4
 - N_2O_3
- phosphorus pentachloride
 - sulphur dioxide
 - carbon monoxide
 - Diphosphorus pentoxide

Practice Problems – Determining the Names and Formulas of Hydrates

- $\text{BaCl}_2, 2\text{H}_2\text{O}$
 - $\text{Na}_2\text{CO}_3, \text{H}_2\text{O}$
 - $\text{Fe(NO}_3)_3, 9\text{H}_2\text{O}$
 - $\text{Ba(OH)}_2, 8\text{H}_2\text{O}$
- cobalt chloride hexahydrate
 - iron(III) chloride tetrahydrate
 - sodium dichromate dihydrate
 - magnesium sulphate heptahydrate

Practice Problems – Determining the Names and Formulas of Acids

- HF
 - HClO
 - H₃PO₄
 - H₂S
- ethanoic or acetic acid
 - sulphurous acid
 - carbonic acid
 - hydriodic acid

Review Questions

- $\text{Na}^+ + \text{F}^- \rightarrow \text{NaF}$
 - $\text{Fe}^{2+} + 2\text{Br}^- \rightarrow \text{FeBr}_2$
 - $\text{Sn}^{4+} + 4\text{Cl}^- \rightarrow \text{SnCl}_4$
 - $2\text{Cr}^{3+} + 3\text{S}^{2-} \rightarrow \text{Cr}_2\text{S}_3$
- CrCl₂
 - AlF₃
 - MgI₂
 - SnO₂
- potassium oxide
 - zinc bromide
 - lead(IV) oxide
 - mercury(I) chloride
- potassium chloride KCl
 - manganese(IV) oxide MnO₂
 - iron(III) sulphide Fe₂S₃
 - copper(II) iodide CuI₂
- $\text{Na}^+ + \text{NO}_2^- \rightarrow \text{NaNO}_2$
 - $3\text{Ag}^+ + \text{PO}_4^{3-} \rightarrow \text{Ag}_3\text{PO}_4$
 - $\text{Li}^+ + \text{CH}_3\text{COO}^- \rightarrow \text{LiCH}_3\text{COO}$
 - $2\text{Cr}^{3+} + 3\text{C}_2\text{O}_4^{2-} \rightarrow \text{Cr}_2(\text{C}_2\text{O}_4)_3$
- CuClO₄
 - Ca(HS)₂
 - Al₂(HPO₄)₃
 - Mg(OH)₂
- barium phosphate
 - iron(II) bisulphite
 - lead(IV) binoxalate
 - copper(I) dihydrogen phosphate
- for e.g. FeNa(CrO₄)₂ or FeNa₃(CrO₄)₃
 - for e.g. Zn₂(SO₄)(NO₃)₂ or Zn₃(SO₄)₂(NO₃)₂
- ClO
 - P₄O₆
 - AsF₅
 - NI₃
- Triphosphorus pentabromide
 - Diboron hexahydride
 - sulphur tri-oxide
 - carbon tetrafluoride
- Na₂SO₄, 10H₂O
 - CaCl₂, 2H₂O
 - Cu(CH₃COO)₂, H₂O
 - CrCl₃, 6H₂O
- cadmium nitrate, tetrahydrate
 - sodium monohydrogen phosphate, heptahydrate
 - copper(II) sulphate, pentahydrate
 - iron(III) nitrate, nonahydrate

