



Chemistry 20: Unit 0 – Review Nomenclature Worksheet

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1. Write the formula for each binary ionic compound. (you do not need to include states of matter)

COMPOUND NAME	METAL ION (+)	NON METAL ION (-)	FORMULA
sodium nitride	Na^+	N^{3-}	Na_3N
lithium oxide	Li^+	O^{2-}	Li_2O
zinc chloride	Zn^{2+}	Cl^-	ZnCl_2
silver bromide	Ag^+	Br^-	AgBr
potassium nitride	K^+	N^{3-}	K_3N

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2. Name the following binary ionic compounds. (you don't need states)

FORMULA	COMPOUND NAME
NaI	sodium iodide.
MgCl_2	magnesium chloride
ZnO	zinc oxide.
AlBr_3	aluminium bromide.
BaS	barium sulphide.

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3. Write the formulas for the following compounds.

NAME	FORMULA
nickel (II) iodide	NiI_2
lead (II) nitride	Pb_3N_2
tin (IV) oxide	SnO_2
antimony (III) chloride	$SbCl_3$
copper (II) oxide	CuO

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4. Write the names for the following compounds.

FORMULA	METAL ION CHARGE	NONMETAL ION CHARGE	NAME
$NiCl_3$	Ni^{3+}	Cl^-	nickel (III) chloride.
MnO	Mn^{2+}	O^{2-}	manganese (II) oxide.
Cr_2O_3	Cr^{3+}	O^{2-}	chromium (III) oxide.
$CuCl_2$	Cu^{2+}	Cl^-	copper (II) chloride.
PbO_2	Pb^{4+}	O^{2-}	lead (IV) oxide.

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5. Write the formula of the following polyatomic compounds.

NAME	POSITIVE ION CHARGE	NEGATIVE ION CHARGE	FORMULA
sodium chlorate	Na^+	ClO_3^-	$NaClO_3$
aluminum sulfate	Al^{3+}	SO_4^{2-}	$Al_2(SO_4)_3$
copper (II) nitrate	Cu^{2+}	NO_3^-	$Cu(NO_3)_2$
lithium hydroxide	Li^+	OH^-	$LiOH$
magnesium nitrate	Mg^{2+}	NO_3^-	$Mg(NO_3)_2$

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6. Write the names of the following compounds.

FORMULA	NAME
$\text{Ba}_3(\text{PO}_4)_2$	barium phosphate.
Na_2CO_3	sodium carbonate.
$\text{Fe}(\text{NO}_3)_3$	iron (III) nitrate.
MgSO_4	magnesium sulphate.
Ag_2CO_3	silver carbonate.

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7. Write the formula for the following compounds.

NAME	FORMULA
sulfur dioxide	SO_2
carbon monoxide	CO
dihydrogen sulfide	H_2S
sulfur dichloride	SCl_2
tetraphosphorus decaoxide	P_4O_{10}

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8. Write the names of the following compounds.

FORMULA	NAME
SiO_2	silicon dioxide.
OCl_2	oxygen dichloride.
SO_3	sulphur trioxide.
CO_2	carbon dioxide.
NO_3	nitrogen trioxide.

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10. Write the name of each compound. Indicate whether they are ionic (i), molecular (m) or acidic (a).

FORMULA	NAME	TYPE
K_2SO_3	potassium sulphite	i
$Fe(NO_3)_3$	iron(III) nitrate	i
$K_2Cr_2O_7$	potassium dichromate	i
$NaHCO_3$	sodium hydrogen carbonate ^{or bicarbonate}	i
$C_{12}H_{22}O_{11}$	sucrose	m
N_2O	dinitrogen ^{mono} oxide	m
$Ca(NO_2)_2$	calcium nitrite	i
$KMnO_4$	potassium permanganate	i
$H_2CO_{3(aq)}$	carbonic acid	a.
N_2O_3	dinitrogen ^{tri} oxide	m
$(NH_4)_2SO_3$	ammonium sulphite	i
$Ca(Cr_2O_7)$	calcium dichromate	i
CH_4	methane	m
$H_2SO_{4(aq)}$	hydro sulphuric acid	a.
$HI_{(aq)}$	hydroiodic acid	a.
$Na_2S_2O_3$	sodium thiosulfate	i
$NaCN$	sodium cyanide	i
P_2O_5	diphosphorus pentoxide	m

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9. Write the formula of the compound and indicate whether they are ionic (i) molecular (m) or acid (a).

NAME	FORMULA	TYPE
sodium bromide	NaBr	i
iron (II) chloride	FeCl_2	i
calcium hydroxide	Ca(OH)_2	i
potassium sulfite	K_2SO_3	i
magnesium sulfide	MgS	i
phosphorous trichloride	PCl_3	m
glucose	$\text{C}_6\text{H}_{12}\text{O}_6$	m
ammonium sulfate	$(\text{NH}_4)_2\text{SO}_4$	i
cobalt (II) nitrate	$\text{Co(NO}_3)_2$	i
dinitrogen tetraoxide	N_2O_4	m
sulfurous acid	H_2SO_3	a
hydrochloric acid	HCl	a
ammonia	NH_3	M
hypochlorous acid	HClO	a.
hydrobromic acid	HBr	a.
chloric acid	HClO_3	a
carbon monoxide	CO	m
calcium borate	$\text{Ca}_2(\text{B}_2\text{O}_7)_2$	i

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