

Worksheet 6.2 Word Equations

1. Write the chemical equations and balance each of the following word equations.

- a) Aluminum metal reacts with iron (II) oxide powder to produce aluminum oxide solid and iron metal.

b) Aluminum sulphate solution and calcium hydroxide solution produce a precipitate of aluminum hydroxide and solid calcium sulphate.

c) Ammonia gas (NH_3) plus oxygen gas yields nitrogen monoxide gas plus water vapour.

- d) Calcium hydroxide solution and carbon dioxide gas yields solid calcium carbonate and liquid water.

- e) Aqueous iron (III) chloride and sodium carbonate solution yields aqueous sodium chloride and a precipitate of iron (III) carbonate.

- f) Solid iron (III) oxide and carbon monoxide gas yields iron metal and carbon dioxide gas.

- g) Magnesium carbonate solution plus aqueous hydrochloric acid (HCl) yields magnesium chloride solution plus liquid water and carbon dioxide gas.

- h) Silicon dioxide solid plus aqueous hydrofluoric acid (HF) yields solid silicon tetrafluoride plus liquid water.

- i) Aqueous sodium hydroxide and carbon dioxide gas yields sodium carbonate solution and liquid water.

Balancing Equations Worksheet

- 1) $\underline{\hspace{1cm}}$ Na₃PO₄ + $\underline{\hspace{1cm}}$ KOH \rightarrow $\underline{\hspace{1cm}}$ NaOH + $\underline{\hspace{1cm}}$ K₃PO₄
- 2) $\underline{\hspace{1cm}}$ MgF₂ + $\underline{\hspace{1cm}}$ Li₂CO₃ \rightarrow $\underline{\hspace{1cm}}$ MgCO₃ + $\underline{\hspace{1cm}}$ LiF
- 3) $\underline{\hspace{1cm}}$ P₄ + $\underline{\hspace{1cm}}$ O₂ \rightarrow $\underline{\hspace{1cm}}$ P₂O₃
- 4) $\underline{\hspace{1cm}}$ RbNO₃ + $\underline{\hspace{1cm}}$ BeF₂ \rightarrow $\underline{\hspace{1cm}}$ Be(NO₃)₂ + $\underline{\hspace{1cm}}$ RbF
- 5) $\underline{\hspace{1cm}}$ AgNO₃ + $\underline{\hspace{1cm}}$ Cu \rightarrow $\underline{\hspace{1cm}}$ Cu(NO₃)₂ + $\underline{\hspace{1cm}}$ Ag
- 6) $\underline{\hspace{1cm}}$ CF₄ + $\underline{\hspace{1cm}}$ Br₂ \rightarrow $\underline{\hspace{1cm}}$ CBr₄ + $\underline{\hspace{1cm}}$ F₂
- 7) $\underline{\hspace{1cm}}$ HCN + $\underline{\hspace{1cm}}$ CuSO₄ \rightarrow $\underline{\hspace{1cm}}$ H₂SO₄ + $\underline{\hspace{1cm}}$ Cu(CN)₂
- 8) $\underline{\hspace{1cm}}$ GaF₃ + $\underline{\hspace{1cm}}$ Cs \rightarrow $\underline{\hspace{1cm}}$ CsF + $\underline{\hspace{1cm}}$ Ga
- 9) $\underline{\hspace{1cm}}$ BaS + $\underline{\hspace{1cm}}$ PtF₂ \rightarrow $\underline{\hspace{1cm}}$ BaF₂ + $\underline{\hspace{1cm}}$ PtS
- 10) $\underline{\hspace{1cm}}$ N₂ + $\underline{\hspace{1cm}}$ H₂ \rightarrow $\underline{\hspace{1cm}}$ NH₃
- 11) $\underline{\hspace{1cm}}$ NaF + $\underline{\hspace{1cm}}$ Br₂ \rightarrow $\underline{\hspace{1cm}}$ NaBr + $\underline{\hspace{1cm}}$ F₂
- 12) $\underline{\hspace{1cm}}$ Pb(OH)₂ + $\underline{\hspace{1cm}}$ HCl \rightarrow $\underline{\hspace{1cm}}$ H₂O + $\underline{\hspace{1cm}}$ PbCl₂
- 13) $\underline{\hspace{1cm}}$ AlBr₃ + $\underline{\hspace{1cm}}$ K₂SO₄ \rightarrow $\underline{\hspace{1cm}}$ KBr + $\underline{\hspace{1cm}}$ Al₂(SO₄)₃
- 14) $\underline{\hspace{1cm}}$ CH₄ + $\underline{\hspace{1cm}}$ O₂ \rightarrow $\underline{\hspace{1cm}}$ CO₂ + $\underline{\hspace{1cm}}$ H₂O
- 15) $\underline{\hspace{1cm}}$ Na₃PO₄ + $\underline{\hspace{1cm}}$ CaCl₂ \rightarrow $\underline{\hspace{1cm}}$ NaCl + $\underline{\hspace{1cm}}$ Ca₃(PO₄)₂
- 16) $\underline{\hspace{1cm}}$ K + $\underline{\hspace{1cm}}$ Cl₂ \rightarrow $\underline{\hspace{1cm}}$ KCl
- 17) $\underline{\hspace{1cm}}$ Al + $\underline{\hspace{1cm}}$ HCl \rightarrow $\underline{\hspace{1cm}}$ H₂ + $\underline{\hspace{1cm}}$ AlCl₃
- 18) $\underline{\hspace{1cm}}$ N₂ + $\underline{\hspace{1cm}}$ F₂ \rightarrow $\underline{\hspace{1cm}}$ NF₃
- 19) $\underline{\hspace{1cm}}$ SO₂ + $\underline{\hspace{1cm}}$ Li₂Se \rightarrow $\underline{\hspace{1cm}}$ SSe₂ + $\underline{\hspace{1cm}}$ Li₂O
- 20) $\underline{\hspace{1cm}}$ NH₃ + $\underline{\hspace{1cm}}$ H₂SO₄ \rightarrow $\underline{\hspace{1cm}}$ (NH₄)₂SO₄