

**Worksheet 6.2 Word Equations**

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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.

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

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- c) Ammonia gas ( $\text{NH}_3$ ) plus oxygen gas yields nitrogen monoxide gas plus water vapour.

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

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

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

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

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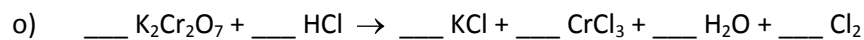
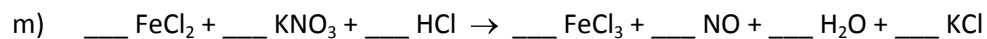
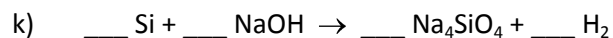
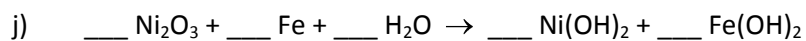
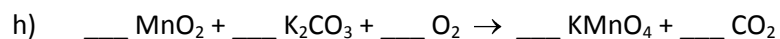
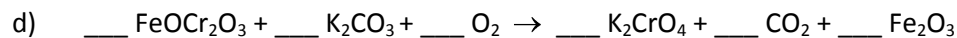
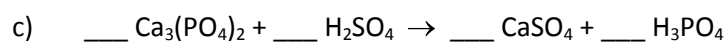
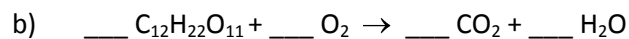
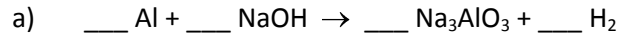
- h) Silicon dioxide solid plus aqueous hydrofluoric acid (HF) yields solid silicon tetrafluoride plus liquid water.

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

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2. Balance the following chemical equations.



**Answers to Worksheet 6.1 Writing and Balancing Equations**

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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.



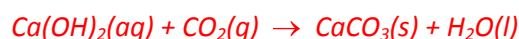
- b) Aluminum sulphate solution and calcium hydroxide solution produce a precipitate of aluminum hydroxide and solid calcium sulphate.



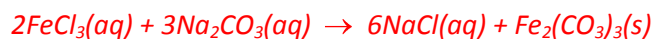
- c) Ammonia gas (NH<sub>3</sub>) plus oxygen gas yields nitrogen (II) oxide gas plus water vapour.



- 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.



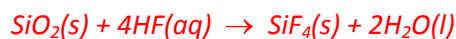
- f) Solid iron (III) oxide and carbon monoxide gas yields iron metal and carbon dioxide gas.



- 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.



2. Balance the following chemical equations.

