

Writing Balanced Equations

Use a periodic table and your knowledge of chemical formulae, structure and bonding to answer the following questions.

1. Recall the chemical formula of the following compounds:

a. water

b. ammonia

c. methane

d. hydrochloric acid

e. sulfuric acid

f. nitric acid

2. Deduce the chemical formula of the following compounds:

a. magnesium oxide

b. potassium hydroxide

c. sodium hydrogen carbonate

d. lithium sulfate

e. calcium nitrate

f. ammonium phosphate

3. Write a balanced full equation for the reaction between magnesium metal and oxygen to produce magnesium oxide.

4. Write a balanced full equation for the reaction between lithium hydroxide solution and sulfuric acid to produce soluble lithium sulfate and water.

5. Write a balanced full equation for the reaction between solid aluminium oxide and phosphoric acid to produce insoluble aluminium phosphate and water.

6. Write a balanced ionic equation for the reaction between hydrochloric acid and sodium hydroxide solution to produce sodium chloride and water.

7. Write a balanced ionic equation for the reaction between magnesium metal and iron(II) nitrate solution to produce magnesium nitrate solution and iron metal.

8. Write a balanced ionic equation for the reaction between barium chloride solution and sodium sulfate solution to produce a precipitate of barium sulfate and aqueous sodium chloride.
