

Use with textbook pages 84-92.

## Compounds with polyatomic ions

You can use the periodic table on page 202 to help you answer these questions.

1. Write the names of the following ionic compounds.

- (a)  $\text{AgNO}_3$  silver nitrate (e)  $\text{Ni(OH)}_2$  nickel (II) hydroxide  
 (b)  $\text{BaSO}_4$  barium sulphate (f)  $\text{CuCO}_3$  copper (II) carbonate  
 (c)  $\text{NH}_4\text{Cl}$  ammonium chloride (g)  $\text{Sr(NO}_3)_2$  strontium nitrate  
 (d)  $\text{Ca}_3(\text{PO}_4)_2$  calcium phosphate (h)  $\text{Cr}_2(\text{SO}_4)_3$  chromium (III) sulphate

2. Write the chemical formulas for the following compounds.

- (a) calcium hydroxide  $\text{Ca(OH)}_2$  (e) potassium dichromate  $\text{K}_2\text{Cr}_2\text{O}_7$   
 (b) ammonium chloride  $\text{NH}_4\text{Cl}$  (f) tin(II) hydroxide  $\text{Sn(OH)}_2$   
 (c) sodium nitrite  $\text{NaNO}_2$  (g) ammonium phosphate  $(\text{NH}_4)_3\text{PO}_4$   
 (d) lithium hydrogen carbonate  $\text{LiHCO}_3$  (h) iron(III) nitrate  $\text{Fe(NO}_3)_3$

3. Write the formulas and names of the compounds with the following combination of ions. The table has been partially completed to help guide you.

	Positive ion	Negative ion	Formula	Compound name
(a)	$\text{Ca}^{2+}$	$\text{CO}_3^{2-}$	$\text{CaCO}_3$	calcium carbonate
(b)	$\text{K}^+$	$\text{SO}_3^{2-}$	$\text{K}_2\text{SO}_3$	potassium sulphite
(c)	$\text{Na}^+$	$\text{ClO}_3^-$	$\text{NaClO}_3$	sodium chlorate
(d)	$\text{Mg}^{2+}$	$\text{ClO}_4^-$	$\text{Mg(ClO}_4)_2$	magnesium perchlorate
(e)	$\text{Cs}^+$	$\text{OH}^-$	$\text{CsOH}$	cesium hydroxide
(f)	$\text{NH}_4^+$	$\text{PO}_4^{3-}$	$(\text{NH}_4)_3\text{PO}_4$	ammonium phosphate
(g)	$\text{Ca}^{2+}$	$\text{CN}^-$	$\text{Ca(CN)}_2$	calcium cyanide
(h)	$\text{Fe}^{3+}$	$\text{HSO}_4^-$	$\text{Fe(HSO}_4)_3$	iron (III) hydrogen sulphate or iron (III) bisulphate