

C. C. C. Heep Woh College  
Form 4 Chemistry Quiz 3  
Unit 7 Chemical bonds

1. (½ for each answer)

	Solution	Conduct? (Yes / No)
(a)	Sea water	Yes
(b)	Tetrachloromethane (CCl <sub>4</sub> )	No
(c)	Potassium chloride	Yes
(d)	Molten magnesium	Yes
(e)	Bromine	No
(f)	Sulphuric acid (H <sub>2</sub> SO <sub>4</sub> )	Yes
(g)	Sugar	No
(h)	Pure water	No

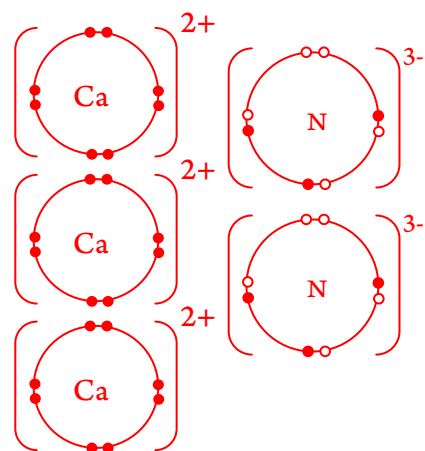
What can you conclude from the above table about the conductivity?

The solutions that contain mobile ions or free electrons will conduct electricity.      2

2. (1 mark for correct diagram, 1 mark for correct naming)

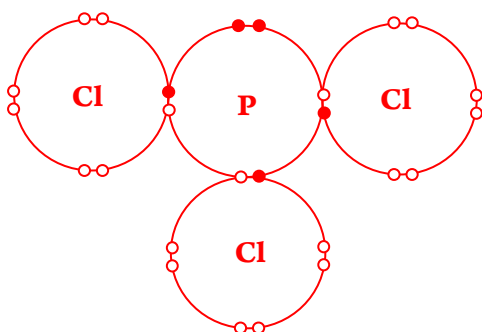
(a) Barium and bromine

(b) Calcium and nitrogen



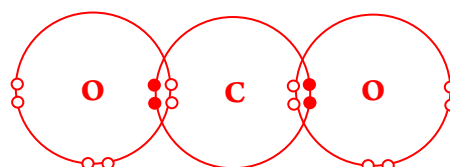
Calcium nitride

(c) Phosphorus and chlorine



Phosphorus trichloride

(d) Carbon and oxygen



Carbon dioxide

3. Complete the following table.

[30]

Name of ion	Formula	Colour in (aq)
Permanganate ion	$\text{MnO}_4^-$	Violet
Iron(III) ion	$\text{Fe}^{3+}$	Yellow/ Brown
Sulphide ion	$\text{S}^{2-}$	Colourless
Nitrate ion	$\text{NO}_3^-$	Colourless
Manganese(II) ion	$\text{Mn}^{2+}$	Pale Pink
Copper(I) ion	$\text{Cu}^+$	Colourless
Copper(II) ion	$\text{Cu}^{2+}$	Blue
Nitrite ion	$\text{NO}_2^-$	Colourless
Carbonate ion	$\text{CO}_3^{2-}$	Colourless
Nickel(II) ion	$\text{Ni}^{2+}$	Green
Lead(II) ion	$\text{Pb}^{2+}$	Colourless
Sulphite ion	$\text{SO}_3^{2-}$	Colourless
Phosphide ion	$\text{P}^{3-}$	Colourless
Dichromate ion	$\text{Cr}_2\text{O}_7^{2-}$	Orange
Hydroxide ion	$\text{OH}^-$	Colourless
Ammonium ion	$\text{NH}_4^+$	Colourless
Oxide ion	$\text{O}^{2-}$	Colourless
Chromate ion	$\text{CrO}_4^{2-}$	Yellow
Chloride ion	$\text{Cl}^-$	Colourless
Bromide ion	$\text{Br}^-$	Colourless
Sulphate ion	$\text{SO}_4^{2-}$	Colourless
Cobalt(II) ion	$\text{Co}^{2+}$	Pale Pink
Nitride ion	$\text{N}^{3-}$	Colourless
Hypochlorite ion	$\text{ClO}^-$	Colourless
Phosphate ion	$\text{PO}_4^{3-}$	Colourless
Chromium(III) ion	$\text{Cr}^{3+}$	Green
Aluminium ion	$\text{Al}^{3+}$	Colourless
Fluoride ion	$\text{F}^-$	Colourless

<b>Hydeogensulphate ion</b>	<b><math>\text{HSO}_4^-</math></b>	<b>Colourless</b>
<b>Hydrogencarbonate ion</b>	<b><math>\text{HCO}_3^-</math></b>	<b>Colourless</b>

**The End**