

C. C. C. Heep Woh College
Form 4 Chemistry Quiz 7
Unit 14 : Acids (Dilute Acids)

Suggested Answer

1. (a) Solution B 1
(b) Solution A 1
(c) Hydrogen ion and chloride ion 1
(d) Since the density of calcium carbonate is greater than that of solution B, the lumps sink to the bottom. 1
Addition of water helps the release of H^+ from HCl. 1
 H^+ reacts with calcium carbonate to form carbon dioxide gas. 1
2. 1 marks each.
- (a) $2Al(s) + 3H_2SO_4(aq) \longrightarrow Al_2(SO_4)_3 + 3H_2$
(b) $NiO(s) + 2HNO_3(aq) \longrightarrow Ni(NO_3)_2 + H_2O$
(c) $Fe_2(CO_3)_3(s) + 6HNO_3(aq) \longrightarrow 2Fe(NO_3)_2 + 3H_2O + 3CO_2$
(d) $2NaHCO_3(aq) + H_2SO_4(aq) \longrightarrow Na_2SO_4 + 2CO_2 + 2H_2O$
(e) $K_2SO_4(s) + HCl(aq) \longrightarrow$ no reaction
(f) $Cu(OH)_2(s) + 2HNO_3(aq) \longrightarrow Cu(NO_3)_2 + 2H_2O$
(g) $Mg(OH)_2(s) + H_2SO_4(aq) \longrightarrow MgSO_4 + 2H_2O$
(h) $Cu(s) + H_2SO_4(aq) \longrightarrow CuSO_4 + H_2$
(i) $Ca(s) + 2HNO_3(aq) \longrightarrow Ca(NO_3)_2 + H_2$
(j) $Cr_2O_3(s) + 3H_2SO_4(aq) \longrightarrow Cr_2(SO_4)_2 + 3H_2O$
3. (a) $H_2SO_4 + MnCO_3 \longrightarrow MnSO_4 + CO_2 + H_2O$ 1
Effervescence / Colourless gas evolved. 1
White powder dissolved. 1
The solution turned from colourless to pink. 1
The gas evolved is carbon dioxide, which turns lime water milky. 1
 $Ca(OH)_2 + CO_2 \longrightarrow CaCO_3 + H_2O$ 1
- (b) $FeO + 2HCl \longrightarrow FeCl_2 + H_2O$ 1
White powder dissolved. 1
The solution turned from colourless to green. 1
- (c) $Mg + 2HNO_3 \longrightarrow Mg(NO_3)_2 + H_2$ 1
White powder dissolved. 1
Colourless gas bubble evolved. 1
The gas evolved is hydrogen gas, which give a "pop" sound with a burning splint. 1
 $2H_2 + O_2 \longrightarrow 2H_2O$ 1

The End