Year 9 Science

Chemical Reactions II

Instructions: 1. Answer all questions on this paper.

End of Unit
25 marks

Date

Name _____ **Class** _____

1 Name each of the following compounds:

a) SiO_2 (Si - silicon, O - oxygen) _____ (1)

b) SO_3 (S - sulphur, O - oxygen) _____ (1)

c) NaOH (Na - sodium, OH - hydroxide) _____ (1)

2 **a)** A copper ion is written as Cu^{2+}. What does the 2+ indicate?

_____ (1)

b) A nitride ion is written as N^{3-}. What does the 3^- indicate?

_____ (1)

c) What is the formula for: Potassium (K^+) chloride (Cl^-)? _____ (1)

d) What is the formula for: Copper (Cu^{2+}) nitrate (NO_3^-)? _____ (1)

3 **a)** What is the definition of an acid? _____ (1)

_____

b) What is the definition of a base? _____ (1)

_____

c) When HF is dissolved in water it tends to release the following ions:

$HF \rightarrow H^+ + F^-$

Is HF an acid or a base? _____ (1)

d) When ammonium hydroxide is dissolved in water it tends to release the following ions:

$NH_4OH \rightarrow NH_4^+ + OH^-$

Is NH_4OH an acid or a base? _____ (1)

e) A solution returns a pH of 3. Is the solution an acid or a base? _____ (1)

f) A solution returns a pH of 8. Is the solution an acid or a base? _____ (1)

4 **a)** Copy and complete the neutralisation equation:

Acid + Base ➔ _____ + _____ (1)

Given the following acids and bases:

Acid	**Base**
HCl	NaOH
HNO_3	$Ca(OH)_2$
H_2SO_4	$Mg(OH)_2$

Which acid and which base would you mix together to produce the following salts?

b) $MgCl_2$ (Magnesium chloride) _____ (1)

c) $NaNO_3$ (Sodium nitrate) _____ (1)

5 **a)** Complete the following acid-metal word equation:

hydrochloric acid + magnesium ➔ _____ + _____ (1)

b) Complete the following acid-carbonate word equation:

sulphuric acid + zinc carbonate ➔ _____ + _____ (1)

c) Complete the following combustion word equation:

carbon + oxygen ➔ _____ + _____ (1)

6 **a)** What is meant by cellular respiration?

_____ (1)

_____

b) Write a word equation for cellular respiration.

_____ (1)

c) Why is respiration so important for life on Earth?

_____ (1)

_____

d) What is meant by photosynthesis?

_____ (1)

_____

e) Write a word equation for photosynthesis.

_____ (1)

f) Why is photosynthesis so important for life on Earth?

_____ (1)

_____

Did you find your silly mistakes?

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