GCSE and IGCSE Chemistry: Acids, Bases and Salts Worksheet

Year 10-11 · GCSE (AQA 4.4.2) and Cambridge IGCSE 0620 topic 8 · Exam-style questions

Name: ..... **Class:** ..... **Date:** ..... **Score:** / 55

Section A: Acids, alkalis and pH [17 marks]

H^+ | OH^- | neutral | alkali | indicator | pH | neutralisation | salt

1 Use words from the box to complete the sentences. You may use a word once, more than once or not at all.

(a) Acids produce ..... ions in water and alkalis produce ..... ions in water. **[2]**

(b) The ..... scale runs from 0 to 14. A solution with pH 7 is ..... . **[2]**

(c) The reaction of an acid with an alkali is called ..... and produces a ..... and water. **[2]**

2 Complete the table of indicator colours. **[6]**

Indicator	In acid	In alkali
Litmus		
Methyl orange		
Phenolphthalein		

3 State the pH of a strong acid, a weak acid and a strong alkali. **[3]**

4 Explain the difference between a strong acid and a concentrated acid. **[2]**

Section B: Reactions of acids [14 marks]

5 Complete the word equations. **[8]**

Reaction	Products
hydrochloric acid + magnesium ⟶	
sulfuric acid + copper oxide ⟶	
nitric acid + sodium hydroxide ⟶	

hydrochloric acid + calcium carbonate ⟶	

6 Write the balanced symbol equation for the reaction of hydrochloric acid with sodium hydroxide, including state symbols. **[3]**

7 Write the ionic equation for neutralisation. **[1]**

8 Describe a test for carbon dioxide gas. **[2]**

Section C: Making salts [16 marks]

9 Describe how to make pure dry crystals of copper sulfate from copper oxide and sulfuric acid. **[6]**

10 Why is the copper oxide added in excess? **[2]**

11 Describe how to make sodium chloride crystals from sodium hydroxide and hydrochloric acid using a titration. **[5]**

12 Name the salt formed from each acid. **[3]**

Acid	Salt family
Hydrochloric acid	
Sulfuric acid	

Nitric acid	

Section D: Solubility and salt rules [8 marks]

13 State the solubility rule for: (a) nitrates, (b) sodium, potassium and ammonium salts, (c) most carbonates, (d) silver chloride. **[4]**

14 Describe how to make insoluble lead sulfate from two soluble solutions. Name the type of reaction. **[4]**