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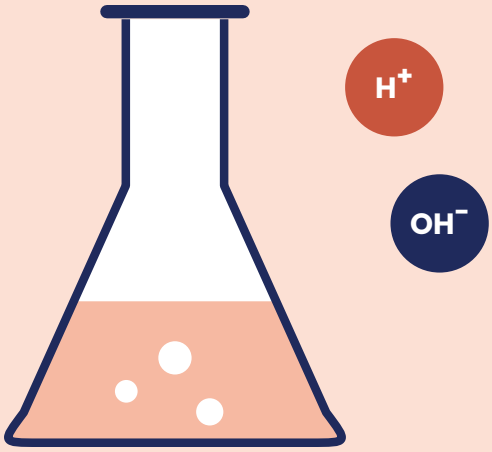
Year 10–11 • GCSE & IGCSE Chemistry

Acids, Bases & Salts

Exam-Style Worksheet

Exam-style questions on pH, indicators, reactions of acids, making salts and the solubility rules.



pH scale | Indicators | Neutralisation | Making salts | Crystals | Solubility

KEY IDEAS IN THIS WORKSHEET

YEAR 10–11

Name: _____ Class: _____

Date set: _____ Date due: _____

What's inside

Section A	Acids, alkalis and pH	17 marks
Section B	Reactions of acids	14 marks
Section C	Making salts	16 marks
Section D	Solubility and salt rules	8 marks

Instructions

- Answer all questions in the spaces provided.
- Show your working in calculations.
- Marks for each question are shown in [ ].
- Use the word and equation boxes to help you.

Total score

/ 55

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Acids, Bases and Salts Worksheet

Year 10–11 • GCSE (AQA 4.4.2) and Cambridge IGCSE 0620 topic 8 • Exam-style questions. Show your working where asked.

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

Word box 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	Colour in acid	Colour in alkali
Litmus		
Methyl orange		
Phenolphthalein		

3 State the pH of each solution. **[3]**

Solution	pH
A strong acid	
A weak acid	
A strong alkali	

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

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Section B Reactions of acids [14 marks]

5 Complete the word equations by writing the products. [8]

Reactants	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. Include state symbols. [3]

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7 Write the ionic equation for neutralisation. [1]

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8 Describe the test for carbon dioxide gas and give the result. [2]

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Section C Making salts [16 marks]

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

10 Explain why the copper oxide is added in excess. **[2]**

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

12 Name the type of salt formed by each acid. **[3]**

Acid	Salts formed are called…
Hydrochloric acid	
Sulfuric acid	
Nitric acid	

Section D Solubility and salt rules [8 marks]

13 State whether each of these is soluble or insoluble in water. [4]

Compound	Soluble or insoluble?
(a) All nitrates	
(b) Sodium, potassium and ammonium salts	
(c) Most carbonates	
(d) Silver chloride	

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

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END OF WORKSHEET **Total: _____ / 55**