



Rewarding Learning

General Certificate of Secondary Education
2024

Centre Number

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Candidate Number

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Double Award Science Chemistry

Unit 7: Practical Skills

Booklet A

Foundation Tier

[GDW71]



GDW71

TIME

1 hour.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Write your answers in the spaces provided in this question paper.
Answer **all** parts of Question 1.

INFORMATION FOR CANDIDATES

The total mark for this paper is **15**.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.
Follow all health and safety instructions.
You may use a ruler and calculator if required.
The apparatus and materials required to complete the task(s) are provided.
A Data Leaflet, which includes a Periodic Table of the Elements, is included in this question paper.

For Examiner's
use only

Question Number	Marks
1	

Total
Marks

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Examiner Only	
Marks	Remark

- _____ [2]

-
- [2]

-
- [1]

-
- [2]

- Use the table below to record the results of Experiments 1 and 2.

Results Table

Experiment	Starting temperature /°C	Lowest temperature achieved /°C	Change in temperature /°C	Colour of universal indicator paper at start	Colour of universal indicator paper at end
Experiment 1 using ethanoic acid					
Experiment 2 using hydrochloric acid					

Carry out the following steps for Experiments 1 and 2.

Experiment 1 – reaction of potassium hydrogencarbonate with ethanoic acid

1. Use a measuring cylinder to measure 20 cm^3 of ethanoic acid and place in a 100 cm^3 beaker.
2. Use the thermometer to measure the temperature, **to the nearest whole number**, of the ethanoic acid and record this starting temperature in the table. Remove the thermometer.
3. Dip a small piece of universal indicator paper in the ethanoic acid. Record the colour obtained in the table.
4. Add **8 spatula measures** of potassium hydrogencarbonate to the beaker and stir gently using the thermometer. Measure the lowest temperature achieved **to the nearest whole number** and record this temperature in the table.
5. Dip a small piece of universal indicator paper in the reacting solution containing the potassium hydrogencarbonate and the ethanoic acid. Record the colour obtained in the table.
6. Calculate the temperature change and record in the table.

Experiment 2 – reaction of potassium hydrogencarbonate with hydrochloric acid

1. Repeat **all** the steps as given in **Experiment 1** but using hydrochloric acid instead of ethanoic acid, a clean measuring cylinder and a clean 100 cm³ beaker. Record the results in the table.

[5]

- (c) Using the pH colour chart provided and the results table from **1(b)**, determine the pH value for ethanoic acid and hydrochloric acid at the **start of the experiment, before** the potassium hydrogencarbonate was added.

Acid	pH value
ethanoic acid	
hydrochloric acid	

[2]

- (d)** A pH of 0–2 indicates a strong acid and a pH of 3–6 indicates a weak acid. Using the results from **1(c)**, suggest which acid is the weakest. Circle the correct answer.

hydrochloric acid

ethanoic acid

[1]

Examiner Only	
Marks	Remark

THIS IS THE END OF THE QUESTION PAPER

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