

**MINISTRY OF EDUCATION, HERITAGE AND ARTS**  
**YEAR 12 CHEMISTRY**  
**REVISION WORKSHEET 3**

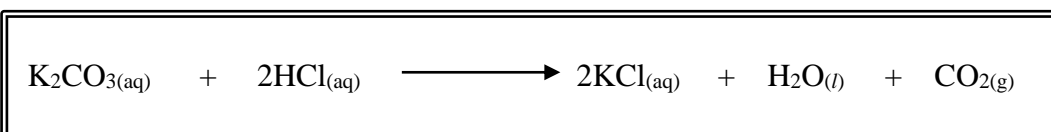
Write the answers to the following questions in your exercise/activity books.

**Strand 3: Reactions**

1. During a titration experiment, 10 mL of 0.05 mol L<sup>-1</sup> potassium carbonate (K<sub>2</sub>CO<sub>3</sub>) solution was titrated with hydrochloric acid (HCl) solution of unknown concentration.

It was found that an average volume of 25.00 mL of acid was required to reach the end-point.

The balanced equation for the reaction is:



- (i) Define **end-point**. **(1 mark)**
- (ii) Name the glassware used in this titration that contained the:
- (a) potassium carbonate solution. **(1 mark)**
- (b) hydrochloric acid solution. **(1 mark)**
- (iii) Name an indicator which can be used in the above titration. **(1 mark)**
- (iv) Calculate the amount (in moles) of K<sub>2</sub>CO<sub>3</sub> that has reacted with HCl. **(1 mark)**
- (v) Determine the amount (in moles) of HCl required to completely react with K<sub>2</sub>CO<sub>3</sub>. **(1 mark)**
- (vi) Calculate the concentration (in mol L<sup>-1</sup>) of the HCl solution used. **(1 mark)**

**The End**