



A2 4.3/B

PLOTTING A pH CURVE



Aim

You are going to plot a pH curve by experiment in two ways

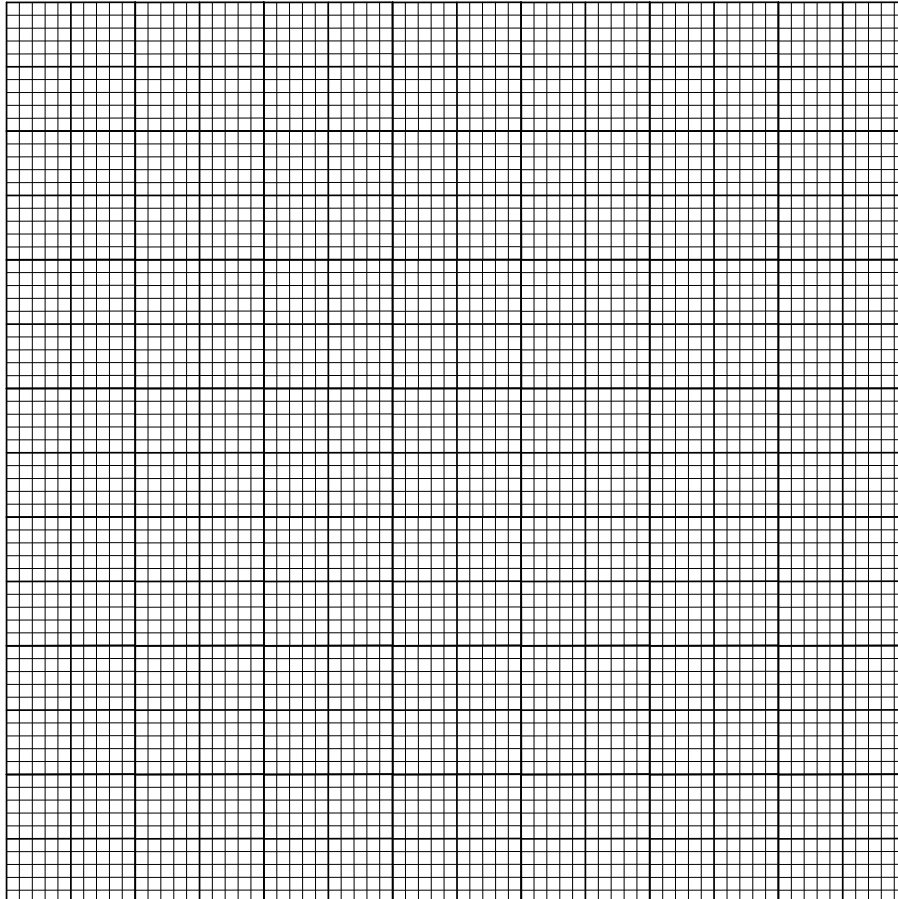
- 1) by measuring pH and plotting against time on a graph and
- 2) by using a datalogger

Method 1

- 1) Calibrate a pH meter using two buffer solutions and store in deionised water.
- 2) Place 25 cm³ of your 0.100 mol dm⁻³ hydrochloric into a conical flask with a pipette.
- 3) Add 50 cm³ of 0.100 mol dm⁻³ sodium hydroxide from the burette 1 cm³ at a time and measure the pH. Between 23 and 27 cm³, add the sodium hydroxide solution 0.2 cm³ at a time. Record the results in a suitable table below.
- 4) Plot a graph of pH against volume of sodium hydroxide added on the grid below.

Results

pH curve



Method 2

- 1) Place 25 cm³ of the 0.100 mol dm⁻³ hydrochloric acid into a wide necked conical flask.
- 2) Set up a burette containing 50 cm³ of the 0.100 mol dm⁻³ sodium hydroxide above the flask.
- 3) Insert the calibrated pH probe connected to a datalogger into the flask.
- 4) Simultaneously, start logging and open the tap to add the base to the acid. Aim to run the base in so that it takes around 1 minute to add to the acid. Swirl well during the titration and try to keep the probe away from where the base enters the solution.
- 5) Stop logging when 50 cm³ of base has been added.
- 6) Take the datalogger to a computer to download the data. Label and print the graph.