Making salts

Reading: pages 51-54

<u>Knowledge</u>

1. Which ion makes a solution acidic?

2. Which ion makes a solution alkaline?

3. Write the ionic equation for neutralisation

4. Complete the table to show the surname of the salts when different acids are used

Name of acid	Formula	Surname of salt produced
Hydrochloric		
Sulphuric		
nitric		

5. What can be added to a solution to judge the pH?

6. Which piece of equipment can be used to add acid drop by drop and measure the volume added?

7. Acid + alkali →

8. Which gas is given off when metals react with acids?

9. What is a strong acid?

10. If the pH decreases by 3 what has happened to the H^+ ion concentration?

<u>Application</u>

1. Complete the equations – or write balanced symbol equations

Magnesium + sulphuric acid →

Calcium oxide + hydrochloric acid →

Ammonium hydroxide + nitric acid →

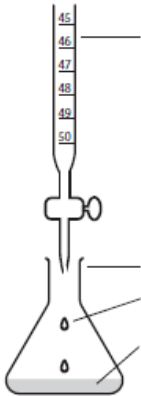2. Explain why ethanoic acid has a higher pH than hydrochloric acid

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3. Describe how you would make copper sulphate crystals from sulphuric acid and copper oxide. Include the equipment you would use at each stage

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4a) Label the diagram below with the chemicals and equipment necessary to make potassium chloride solution

4b) Describe how you would know when the solution is neutral

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4c) A student conducted this experiment three times and obtained the following results:

Volume of HCl needed to neutralise (cm³)	14.5	16.1	15.9	

Work out the mean volume of HCl needed…………………………………………………………………………………………

5. 20 cm³ of a solution of calcium hydroxide requires 50cm³ of sulphuric acid to neutralise it. The sulphuric acid is 2M and the equation for the reaction is:

$$H_2SO_4 + Ca(OH)_2 \rightarrow CaSO_4 + H_2O$$
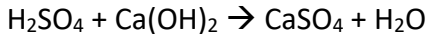
a) balance the equation

b) calculate the concentration of calcium hydroxide

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