

ACIDS AND ALKALIS

1. The solution obtained by dissolving hydrogen chloride gas in water is a strong acid called hydrochloric acid.

a) Explain why a solution of hydrochloric acid is acidic.

b) Why is hydrochloric acid described as a strong acid?

c) Citric acid is another acid which could be used in a school laboratory. It is a weak acid which is found in lemons. How would you be able to tell the difference between solutions of hydrochloric acid and citric acid?

d) Write an equation which shows the reaction between hydrochloric acid and sodium hydroxide solution.

e) Write an **ionic** equation which shows the reaction between hydrochloric acid and sodium hydroxide solution.

f) Give the name of the type of reaction in part d).

g) Name a suitable indicator which could be used for this reaction.

2. A reaction occurs when zinc is added to hydrochloric acid.

a) State two observations which could be made as the reaction takes place.

b) Write a word equation which shows the reaction between zinc and hydrochloric acid.

c) Write a balanced symbol equation for this reaction.
