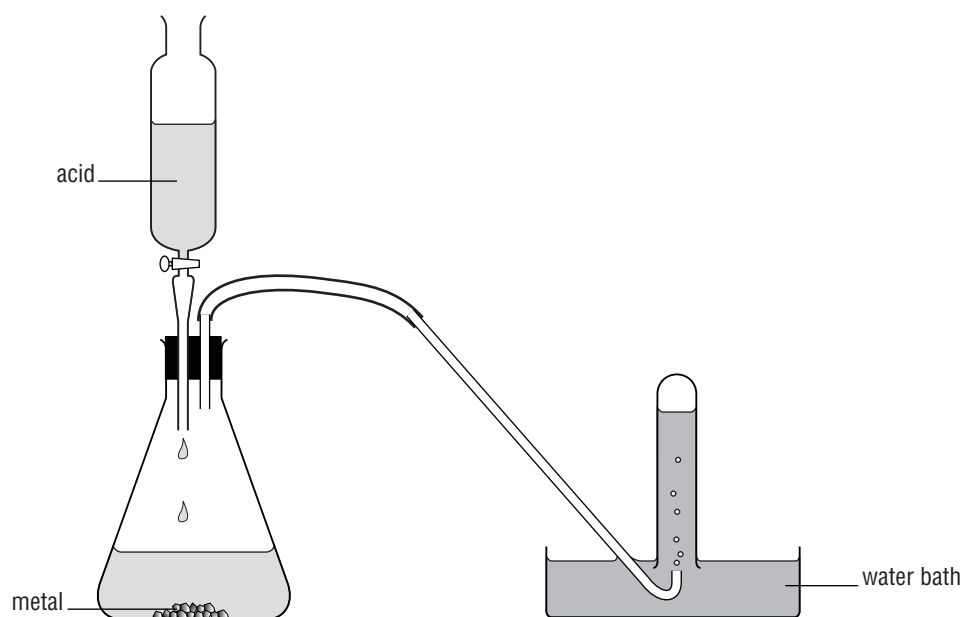


## WORKSHEET 9.1 *Acids and metals*

 Eye protection must be worn.

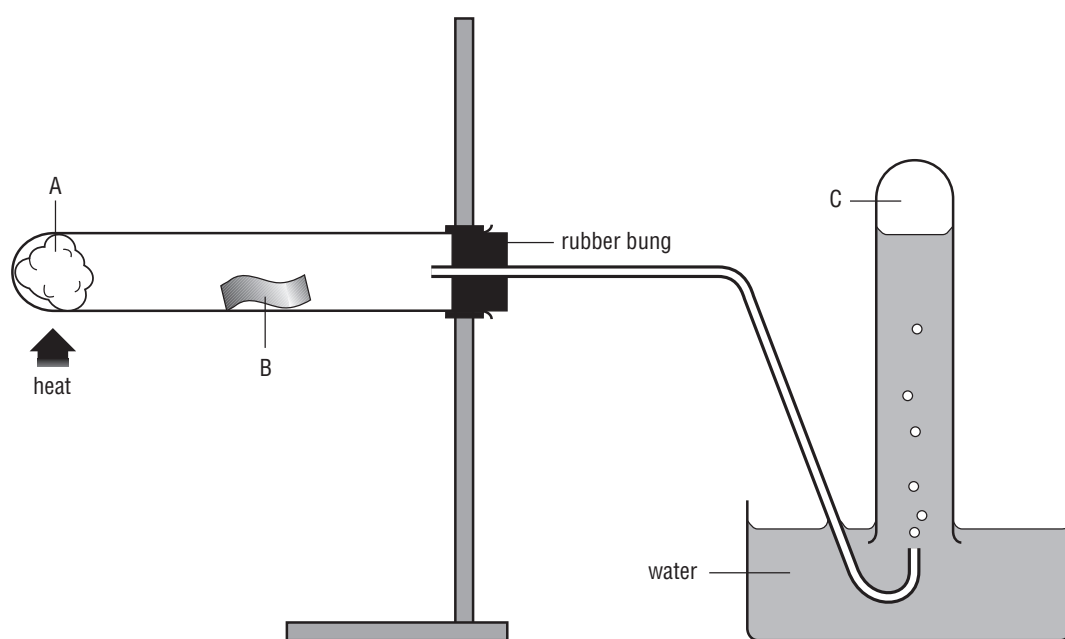
 Handle acids with great care.



- 1 Collect a conical flask, a bung with delivery tube, a dropping funnel, a water bath and test-tubes.
- 2 Place the metal in the conical flask and stopper with the bung. Attach the dropping funnel to the bung.
- 3 Add the acid to the dropping funnel and immerse the delivery tube under water to collect the gas produced in an inverted test-tube filled with water.
- 4 Slowly add the acid to the metal in the conical flask by carefully opening the tap of the dropping funnel very slightly – you must produce a slow, steady flow of acid onto the metal.
- 5 Collect any gas produced in the test-tube and test for hydrogen by placing a lighted splint into the test-tube. If the gas is hydrogen it should produce a squeaky pop as it burns.

## WORKSHEET 9.2 *End of chapter test*

- 1 Name
  - a) a soft metal,
  - b) a magnetic metal,
  - c) a coloured metal.
- 2 What happens when you
  - a) tap a metal,
  - b) hammer a non-metal?
- 3 Name two metals that are found in their metallic form in the Earth's crust.
- 4 What is an ore?
- 5 What is a mixture of metals called?
- 6 a) Name the four substances that enter a blast furnace.  
b) Name three substances that are drawn out of a blast furnace.
- 7 Which gas is present in the largest amount in the atmosphere?
- 8 Name two forms of carbon.
- 9 Name two physical properties of sulphur.
- 10 In which kind of mining is the land surface removed to reach the raw material?
- 11 Which type of substances provide most of the energy that is used for processing raw materials?
- 12 Write the word equation for the reaction between zinc and sulphur.
- 13 The apparatus shown below was set up as part of a study on the reactivity of metals.
  - a) Label the substances at A, B and C.
  - b) What is this apparatus used to test?



- 14 Write the word equation for the reaction between carbon and hot nitric acid.