

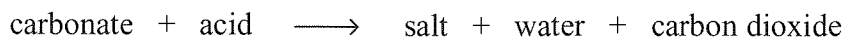
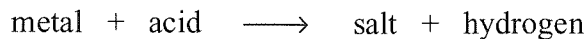
23 Chemical detective



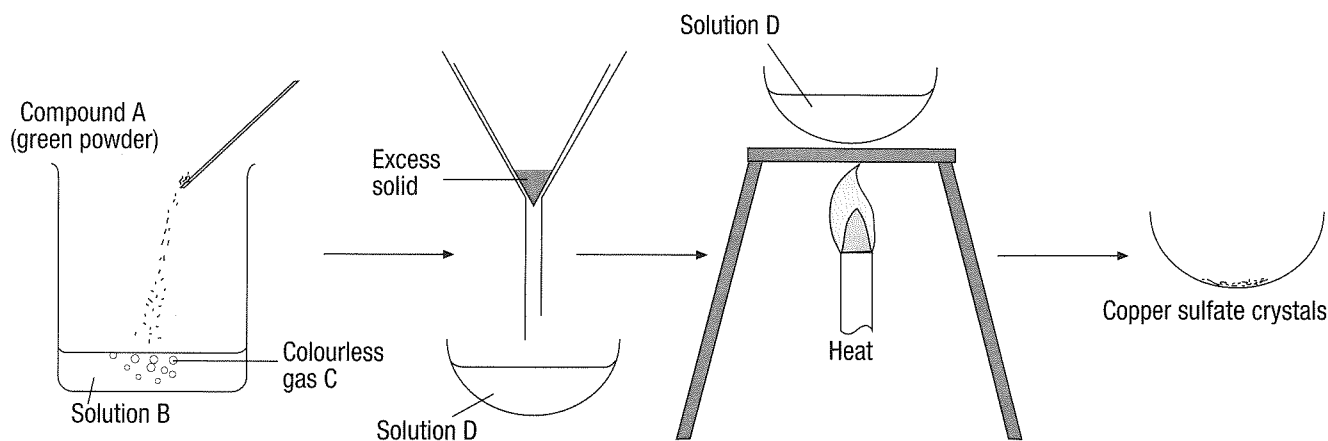
That magnifying glass is just a cliché.



Acids react with metals, carbonates or bases according to the following general equations:



Carolyn took a sample of **Compound A** (a green powder) and added it to **Solution B** (a colourless liquid which had no effect on red litmus paper but turned blue litmus red). She noticed a **Colourless gas C** was produced. The resulting **Solution D** had no effect on red or blue litmus paper. She filtered the mixture to remove the excess solid then heated **Solution D** gently until crystals formed. She found she had made crystals of copper sulfate.



- 1 What does the litmus paper tell you about Solution B? **A**
- 2 Identify (name) Solution B. **M**
- 3 What does the litmus paper tell you about Solution D? **A**
- 4 Identify (name) Solution D. **A**
- 5 What is the Colourless gas C? **A**
- 6 Describe in detail a test that would prove the presence of the gas you identified in 5 above. **A**

- 7 Identify (name) Compound A (the green powder). **M**
- 8 Write a word equation for the reaction which occurred in the beaker. **A**
