7Fa/2 Is there a reaction? 2

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Apparatus

- **Bunsen burner**
- **Heatproof mat**
- **Test tube rack**
- **Thermometer**
- **Eye protection**
- **Test tube holder**
- **Test tubes**
- **Chemicals**

Make sure you are wearing eye protection for all these experiments.
Be especially careful with the hydrochloric acid and sodium hydroxide.

Carry out the experiments described below. In each case, you should:

- look carefully at what happens and write down your observations
- decide if a reaction has taken place
- see if any changes are reversed when you stop heating or leave the tube to stand
- decide if a chemical reaction has taken place
- record your results in a table.

Method – experiment 1

Half fill a test tube with lemon juice. Measure the temperature of the lemon juice. Add a spatula of bicarbonate of soda. Leave the tube to stand, then measure the temperature again.

Method – experiment 2

Half fill a test tube with water. Add a spatula of baking powder. Observe what happens.

Method – experiment 3

Half fill a small beaker with water. Add two spatulas of plaster of Paris. Stir the mixture.

Method – experiment 4

Place two spatulas of zinc oxide in a test tube. Heat the tube gently. If nothing happens, use a hotter flame. Leave the hot tube in a rack to cool down.

Method – experiment 5

Half fill a test tube with copper sulphate solution. Put a little iron wool into the copper sulphate. Leave the tube to stand.

Method – experiment 6

Put about 3 cm depth of water into a test tube. Measure the temperature of the water. Put a spatula of anyhdrous copper sulphate into another tube. Make sure that this tube is dry. Pour the water into the second tube. Watch what happens and measure the temperature of the solution.

S **observing, considering**