AQA Chemistry GCSE

Required Practical 8

Water Purification

Methods taken from the AQA Required Practical Handbook

Water Purification

Aim

Analysis and purification o f water samples from different sources. To include pH measurement, removal of dissolved solids and distillation.

Equipment list

pH tests

- Safety goggles
- Pure distilled water
- Samples of water at different pH values
- Universal indicator solution or paper

Dissolved solids

- Sample of a prepared salt solution or mineral bottled water
- Bunsen burner
- Tripod
- Gauze
- Heatproof mat
- Evaporating basin
- Weighing balance.

Distillation

- Conical flask with delivery tube with bung
- 1 boiling tube
- Ice bath
- Cobalt chloride paper (optional)

1. Analysing a sample of water

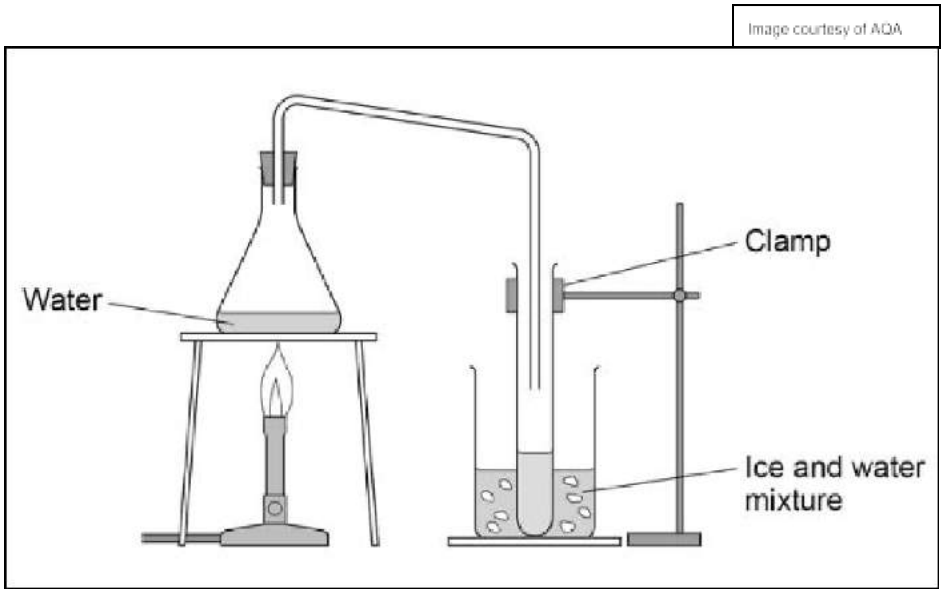
Method

1. Use universal indicator to test the pH of the water.
2. Measure and record the mass of an empty evaporating basin.
3. Pour 10 cm^3 water into the evaporating basin and evaporate the water using a bunsen burner until the most of the water has evaporated.
4. Once the evaporating basin is cool, reweigh and record the change in mass.
5. Calculate the mass of dissolved solids in the water.

2. Purifying a sample of water by distillation

1. Place the water sample in a conical flask and set up the apparatus for distillation.
2. Heat the water gently using a bunsen burner until it boils. Then reduce the heat so the water boils gently.
3. Collect around 1 cm depth of water in the cooled test tube, then stop turn the bunsen burner off.
4. Analyse the water you have distilled with cobalt chloride paper.

Diagram



Safety Precautions

- Do not ingest the water.