

1. Describe a chemical test for water. Name the compound used and describe the colour change.

Cobalt (II) chloride      Blue → Pink  
copper (II) Sulfate      White → Blue

(3)

2. Describe how you would prove that a sample of water is pure.

The boiling point should be 100°C

(1)

3. Explain why distilled water is used in practical chemistry rather than tap water.

Because it contains less chemical impurities

(1)

4. Name one useful substance found in water from natural sources.

Dissolved oxygen or minerals

(1)

5. Explain why nitrates and phosphates can be harmful in water.

They lead to deoxygenation of water and harm aquatic life

(2)

6. a) What process is used to remove solids during water treatment?

Sedimentation or Filtration

(1)

- b) How are tastes and odours (smells) removed during water treatment?

Using carbon

(1)

- c) What is chlorine used for during water treatment?

to kill bacteria and microbes

(1)

7. a) Write the chemical formula of ammonium sulphate.

$(\text{NH}_4)_2\text{SO}_4$

(1)

- b) Why can ammonium sulphate be a useful fertilizer?

Due to its nitrogen content

(1)

- c) Why can't ammonium sulphate be described as an NPK fertilizer?

it doesn't contain phosphorus or potassium

(1)

8. Which gas is the most abundant (the highest percentage) in clean, dry air?

Nitrogen

(1)