

10.1 Water

Name: _____ Class: _____ Date: _____

Total: 9 marks

KEY WORDS water 水 • carbon 碳 • anhydrous 无水 • microbes 微生物 • oxygen 氧气

Objective

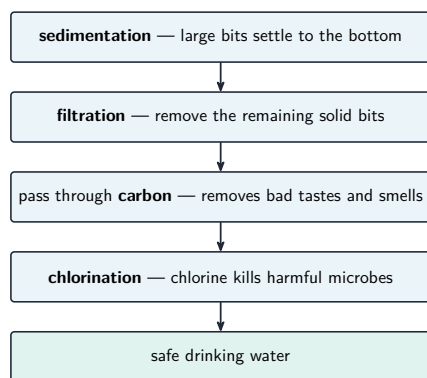
Build the skills to answer exam questions on **water** 水 — testing for water and for purity, what natural water contains, and **water treatment** 水处理.

You must be able to:

- give the chemical tests for water and the tests for purity
- describe what is in natural water (helpful and harmful)
- describe the steps in treating drinking water

1 Worked examples

■ Testing and treating water



Treatment: settle, filter, remove tastes with carbon, then chlorinate to kill microbes

- **test for water:** anhydrous copper(II) sulfate white→blue; cobalt(II) chloride blue→pink.
- **test for purity:** pure water melts at 0 °C and boils at 100 °C.

2 Practice

2.1 A student is given a colourless liquid and a strip of dry cobalt(II) chloride paper. Describe what she would see if the liquid contains water, and state what this test does **not** tell her. [2]

2.2 State the role of chlorine in water treatment. [1]

3 Exam-style questions

3.1 To show that a sample of water is **pure**, you would: [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** add cobalt(II) chloride
B check it boils at exactly 100 °C
C filter it
D add chlorine

3.2 Drinking water is treated in steps.

(a) State the purpose of passing the water through carbon. [1]

(b) Explain why nitrates in natural water can be harmful to aquatic life. [2]

3.3 Explain why distilled water, not tap water, is used in chemistry experiments. [2]