

Core 1

(a) State **two** uses of water in the home.

1. [2]
2. [2]

(b) State the boiling point of pure water.

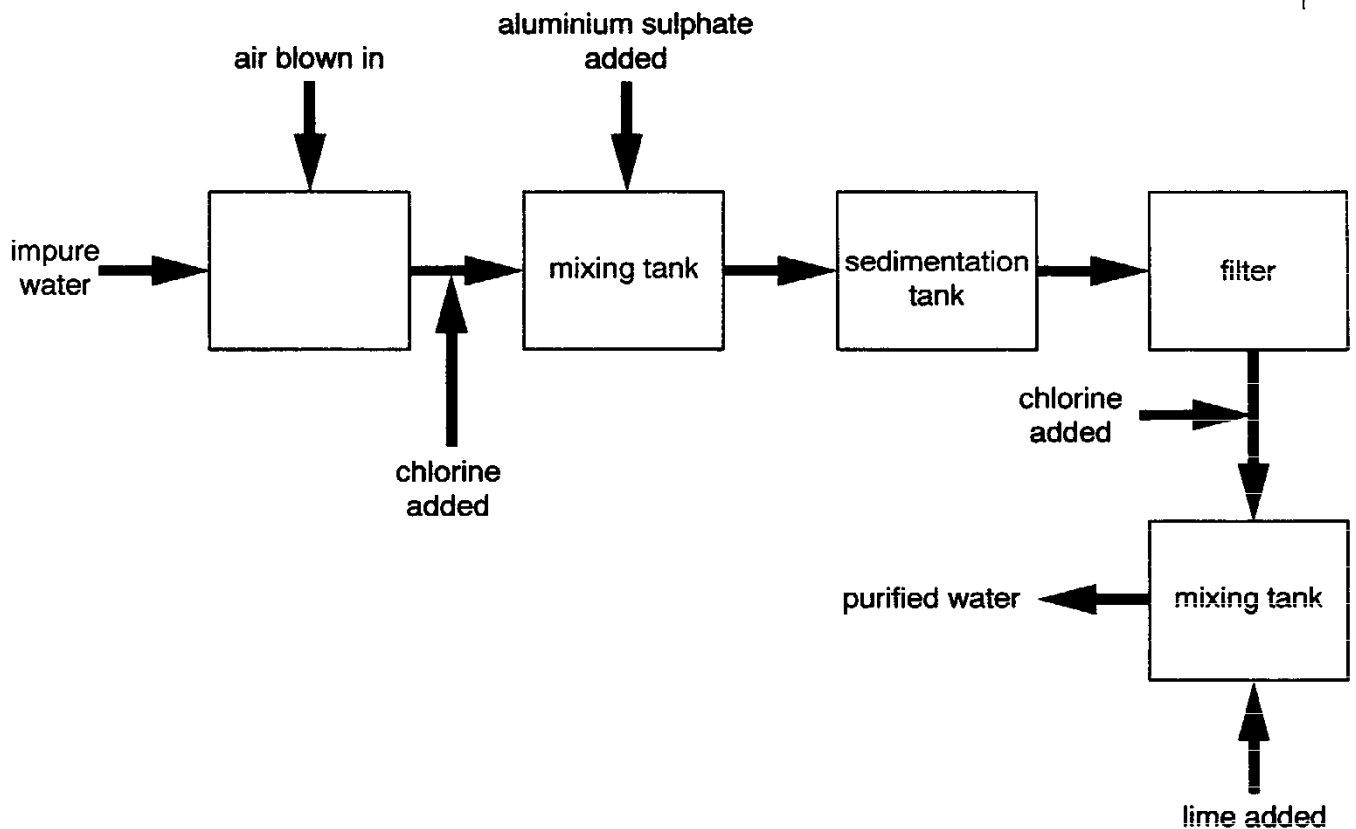
..... [2]

(c) Describe a **chemical** test for water.

Test

Result [2]

The flow chart shows the stages in water purification.



(d) Air is blown into impure water to help remove dissolved iron compounds.

(i) How could you test for iron(III) ions in the water?

Test

Result [2]

(ii) Which **two** gases make up most of the air?

..... and [2]

Core 1

(e) When chlorine is added during the water purification process, the water becomes acidic.

(i) Why is chlorine added during the water purification process?

.....[1]

(ii) Suggest why lime is added after chlorination.

.....
.....[2]

(f) The filter consists of a mixture of sand and stones.

Suggest how the filter helps purify the water.

.....
.....
.....
.....[3]

Core 2

The gas inside the bulb is a mixture of argon and nitrogen.

(i) Explain why argon is used in light bulbs.

.....[1]

(ii) Suggest a gas which could replace either argon or nitrogen in the light bulb.

.....[1]

Core 1

- a any two uses
e.g. washing, drinking, sanitation, growing plants etc
- b 100 °C
- c test add anhydrous / white copper sulphate or anhydrous / blue cobalt chloride
result copper sulphate goes blue / cobalt chloride goes pink
- d(i) test add (sodium / potassium / other suitable) hydroxide or add ammonia
result brown / red-brown precipitate
- (ii) nitrogen, oxygen
- e(i) to kill bacteria / germs / to disinfect the water
- (ii) lime is alkaline
to neutralise the acid / chlorine / to increase the pH
- f impure water contains some solids
solids trapped on stones / sand
water drains through

Core 2

- (i) inert / unreactive
- (ii) helium / neon / krypton / xenon / a noble gas