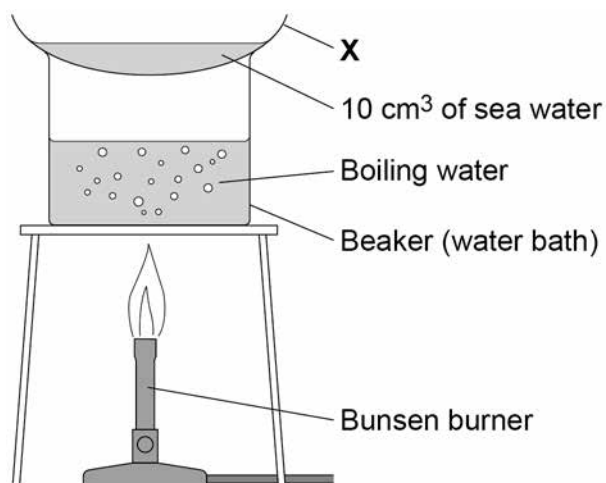


0 3

A student tested a sea water sample for dissolved solids.

Figure 6 shows the apparatus.

Figure 6



0 3 . 1

What is apparatus **X** on **Figure 6**?

[1 mark]

Tick **one** box.

Boiling tube

Condenser

Funnel

Watch glass



0 3 . 2 The student did the test four times.

The student calculated the mass of solid on apparatus **X** after heating.

Table 3 shows the student's results.

Table 3

	Test 1	Test 2	Test 3	Test 4
Mass of solid in grams	0.12	0.29	0.14	0.15

Calculate the mean mass of solid.

Do not include the anomalous result in your calculation.

Give your answer to 2 significant figures.

[3 marks]

Mean mass = _____ g

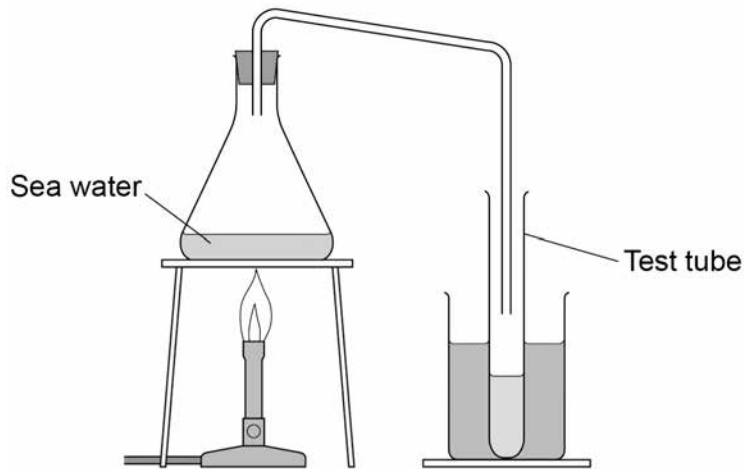
Question 3 continues on the next page

Turn over ►



The student distilled a sample of sea water in the apparatus shown in **Figure 7**

Figure 7



0 3 . 3 What change of state is happening at the surface of the sea water in **Figure 7**? **[1 mark]**

0 3 . 4 Describe how the water in the test tube in **Figure 7** is different from the sea water. **[1 mark]**

0 3 . 5 Why does producing drinking water from sea water using distillation cost a lot of money? **[1 mark]**



0 3 . 6 River water is filtered then sterilised to make drinking water.

Why are these **two** processes done?

[2 marks]

Filtering _____

Sterilising _____

9

Turn over for the next question

Turn over ►



Question	Answers	Extra information	Mark	AO / Spec. Ref.
03.1	watch glass		1	AO1 5.10.1.2
03.2	identify 0.29 as anomaly	an answer of 0.14 (g) scores 3 marks	1	AO3 5.10.1.2
	$\frac{0.12 + 0.14 + 0.15}{3}$ or $\frac{0.41}{3}$	allow $\frac{0.12 + 0.29 + 0.14 + 0.15}{4}$ or $\frac{0.70}{4}$	1	AO2 5.10.1.2
	(=) 0.14 (g)	allow 0.18 (g) if first marking point not awarded	1	AO2 5.10.1.2
03.3	evaporating or vaporisation	allow from liquid to vapour / gas do not accept boiling	1	AO1 5.1.1.2 5.2.2.1
03.4	pure or no salt	allow converse answers relating to seawater allow not a mixture allow desalinated do not accept less salt do not accept filtered	1	AO1 5.1.1.2 5.10.1.2
03.5	uses (a lot of) energy	allow needs heating allow needs electricity allow needs fuel or any suitable fuel ignore references to equipment ignore references to time	1	AO1 5.10.1.2

Question	Answers	Extra information	Mark	AO / Spec. Ref.
03.6	filtering removes particles	allow solids or suitable named solids	1	AO1 5.10.1.2
	sterilising kills bacteria / microbes	allow destroys viruses allow kills viruses	1	
Total			9	