

0 6

Water that is safe to drink contains dissolved substances.

0 6 . 1

What do we call water that is safe to drink?

[1 mark]Tick (✓) **one** box.

Desalinated

Filtered

Fresh

Potable

0 6 . 2

Describe a test for pure water.

Give the result of the test if the water is pure.

[2 marks]

Test _____

Result _____

Question 6 continues on the next page**Turn over ►**

0 6 . 3

Describe a method to determine the mass of dissolved solids in a 100 cm^3 sample of river water.

[4 marks]

0 6 . 4

A sample of river water contains 125 mg per dm^3 of dissolved solids.

Calculate the mass of dissolved solids in grams in 250 cm^3 of this sample of river water.

Give your answer to 2 significant figures.

[4 marks]

Mass of dissolved solids = _____ g



0 6 . 5

A water company allows a maximum of 500 mg per dm^3 of sulfate ions in drinking water.

A sample of drinking water contains 44 mg per dm^3 of sulfate ions.

Calculate the percentage (%) of the maximum allowed mass of sulfate ions in the sample of drinking water.

[2 marks]

Percentage (%) of the maximum allowed mass = _____ %

13

Turn over for the next question

Turn over ►

Question	Answers	Extra information	Mark	AO / Spec. Ref.
06.1	potable		1	AO1 5.10.1.2
06.2	boil (water) (boils) at 100°C	allow boils at 100 °C for 2 marks ignore heat do not accept filter do not accept incorrect test alternative approach freeze (water) (1) (freezes) at 0°C (1) if no other mark awarded, allow 1 mark for evaporate or distil water and no solid left	1 1	AO2 5.8.1.1
06.3	Level 2: The design/plan would lead to the production of a valid outcome. All key steps are identified and logically sequenced.		3–4	AO1 5.10.1.2 10.2.13
	Level 1: The design/plan would not necessarily lead to a valid outcome. Some steps are identified, but the plan may not be logically sequenced.		1–2	
	No relevant content		0	
	Indicative content <ul style="list-style-type: none"> • weigh container. • measure volume (100 cm³) of water into container. • evaporate / heat until dry. • weigh container and remaining solids. • determine mass of dissolved solids to access Level 2 there should be an indication of using a known volume of water, heating until dry and determining the mass of solid.			

06.4	(conversion of cm^3 to dm^3) ($250 \text{ cm}^3 = \frac{250}{1000}$ or $0.25 \text{ (dm}^3)$)	an answer of 0.031 (g) scores 4 marks	1	AO2 5.3.2.5 10.2.13
	(conversion of mg to g) ($125 \text{ mg} = \frac{125}{1000}$ or 0.125 (g))		1	
	(0.25×0.125) = 0.03125	allow correct calculation from incorrect attempt(s) at conversion	1	
	=0.031 (g)	allow an answer correctly rounded to 2 significant figures from an incorrect calculation that uses the values in the question	1	

06.5	$\frac{44}{500} \times 100$	an answer of 8.8 (%) or 9 (%) scores 2 marks	1	AO2 5.10.1.2 10.2.13
	= 8.8 (%)	allow 9 (%)	1	

Total			13	
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