

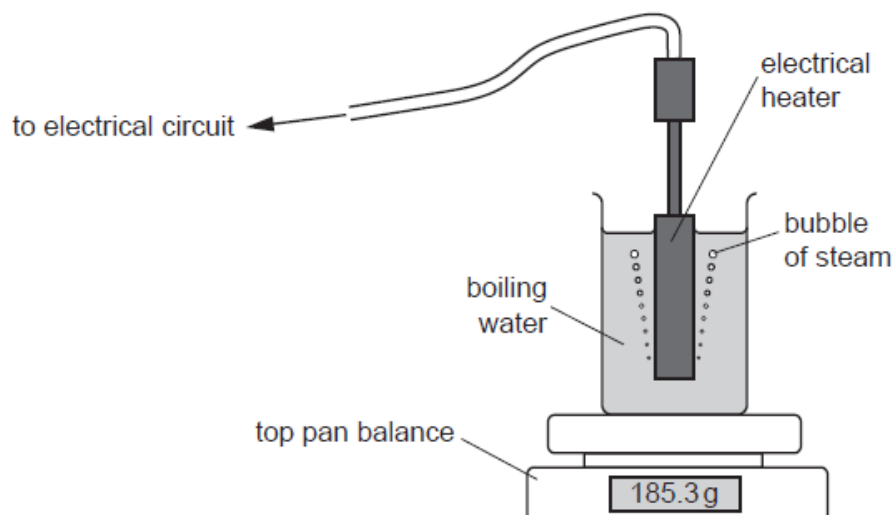
**GCSE Physics B (Twenty First Century Science)**  
**J259/04** Depth in physics (Higher Tier)

**Question Set 2**

1

Sarah carries out an experiment to measure the specific latent heat of vaporisation of water. She does this by finding the energy needed to evaporate a known mass of water.

The apparatus she uses is shown in **Fig. 2.1**.



**Fig. 2.1**

Using this apparatus, Sarah takes these readings.

	<b>Measured value</b>
current	3.0 A
potential difference	12 V
time	150 s
balance reading at start	185.3 g
balance reading at the end	184.3 g

**Table 9.1**

(a)\*

Sarah is not happy with her results.

**Sarah**

The book says the specific latent heat of vaporisation of water should be 2300 J for every gram evaporated. The readings in **Table 9.1** give an answer that's far too big.



Is Sarah right?

What could Sarah do to get an accurate value of the specific latent heat of vaporisation of water from her experiment?

[6]

- (b) Sarah's book has this information about vaporisation of two liquids.

Liquid	Specific latent heat of vaporisation (J per gram)
water	2300
alcohol	950

Suggest why it takes more energy to evaporate 1 gram of water than it does to evaporate 1 gram of alcohol.

[3]

**Total Marks for Question Set 2: 9**

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