2   **Figure 1** shows apparatus used in an experiment to determine the enthalpy of combustion of leaf alcohol.
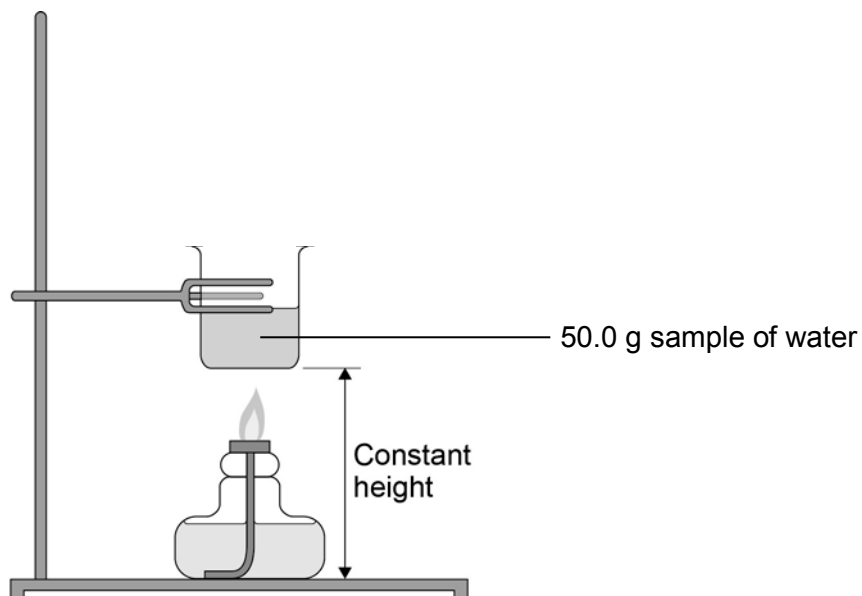
Figure 1

Constant height

50.0 g sample of water

The alcohol is placed in a spirit burner and weighed. The burner is lit and the alcohol allowed to burn for a few minutes. The flame is extinguished and the burner is re-weighed. The temperature of the water is recorded before and after heating.

Table 1 shows the results obtained.

Table 1

Initial mass of spirit burner and alcohol / g	56.38
Final mass of spirit burner and alcohol / g	55.84
Initial temperature of water / °C	20.7
Final temperature of water / °C	40.8

| 0 | 2 | . | 1 |

Write an equation for the complete combustion of leaf alcohol ($CH_3CH_2CH=CHCH_2CH_2OH$).

[1 mark]

0 2 . 2 Use the results from **Table 1** to calculate a value for the enthalpy of combustion of leaf alcohol. Give units in your answer.
(The specific heat capacity of water is 4.18 J K^{-1} g^{-1})

[4 marks]

Enthalpy of combustion = _____ Units = _____

0 2 . 3 State how your answer to Question **2.2** is likely to differ from the value quoted in reference sources.
Give **one** reason for your answer.

[2 marks]

_____

_____

_____

_____

_____

Question 2 continues on the next page

0 2 . 4 A 50.0 g sample of water was used in this experiment.

Explain how you could measure out this mass of water without using a balance.

[2 marks]

_____

_____

_____

_____

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