0 3 A student heated a solid sample of $Na_2CO_3.\ xH_2O$ for 1 minute to remove water and determine a value for x
Figure 3 shows the apparatus used. **Table 1** shows the results recorded.

Figure 3

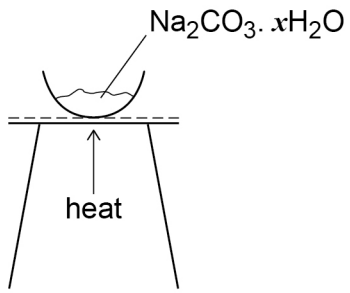

Table 1

Mass of empty evaporating basin	24.35 g
Mass of evaporating basin and solid before heating	25.47 g
Mass of evaporating basin and solid after heating for 1 minute	24.92 g

0 3 . 1 Use the data in **Table 1** to calculate a value for x in the formula $Na_2CO_3.\ xH_2O$
Give your answer to 2 decimal places.

[5 marks]

Value for x _____

0 3 . 2 The correct value for x is 10

Suggest a reason for the difference between the experimental value for x and the correct value.
(If you were unable to calculate an experimental value for x assume it was 8.05. This is **not** the correct experimental value.)

[1 mark]

0 3 . 3 Suggest how the procedure could be improved, using the same apparatus, to give a more accurate value for x
Justify your answer.

[2 marks]

Suggestion

Justification

8

Turn over for the next question