

Combined Science  
PAPER 2  
Foundation Tier

Diagram Booklet

In the boxes below, write your name, centre number and candidate number.

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|------------------|--|--|--|--|--|
| Surname          |  |  |  |  |  |
| Other names      |  |  |  |  |  |
| Centre Number    |  |  |  |  |  |
| Candidate Number |  |  |  |  |  |

## INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

**THIS DIAGRAM BOOKLET MUST BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.**

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## Question 1

FIGURE 2

| <b>substance</b>   | <b>before heating</b> | <b>when hot</b> | <b>after cooling</b> |
|--------------------|-----------------------|-----------------|----------------------|
| <b>metal spoon</b> | <b>solid</b>          | <b>solid</b>    | <b>solid</b>         |
| <b>chocolate</b>   | <b>solid</b>          | <b>liquid</b>   | <b>solid</b>         |
| <b>egg white</b>   | <b>liquid</b>         | <b>solid</b>    | <b>solid</b>         |

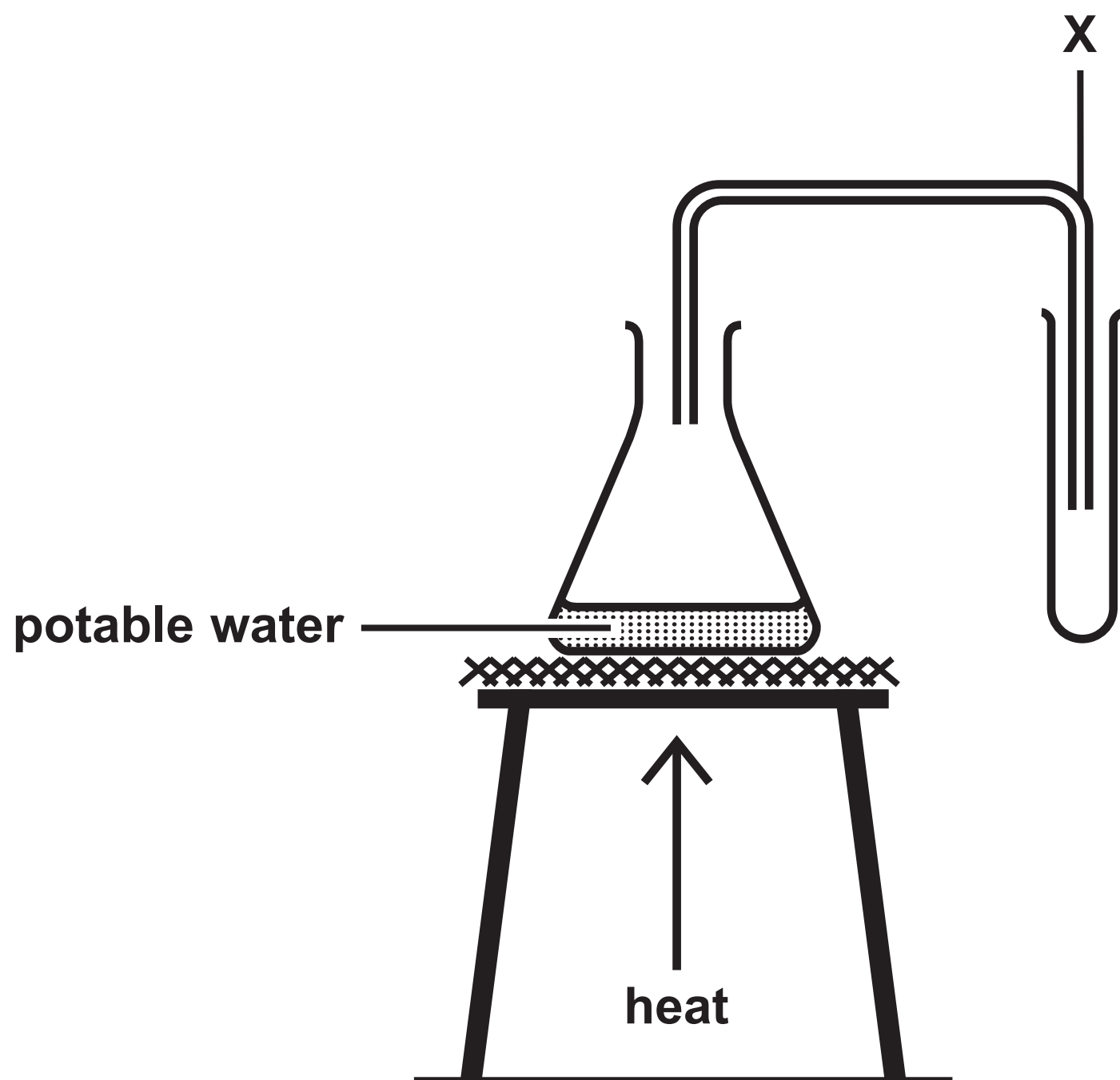
## Question 2(a)(iv)

FIGURE 3

| ion       | concentration in mg dm <sup>-3</sup> |
|-----------|--------------------------------------|
| chloride  | 60·70                                |
| fluoride  | 0·24                                 |
| nitrate   | 24·90                                |
| sulfate   | 71·40                                |
| copper    | 0·05                                 |
| magnesium | 9·10                                 |

## Question 2(b)

FIGURE 4



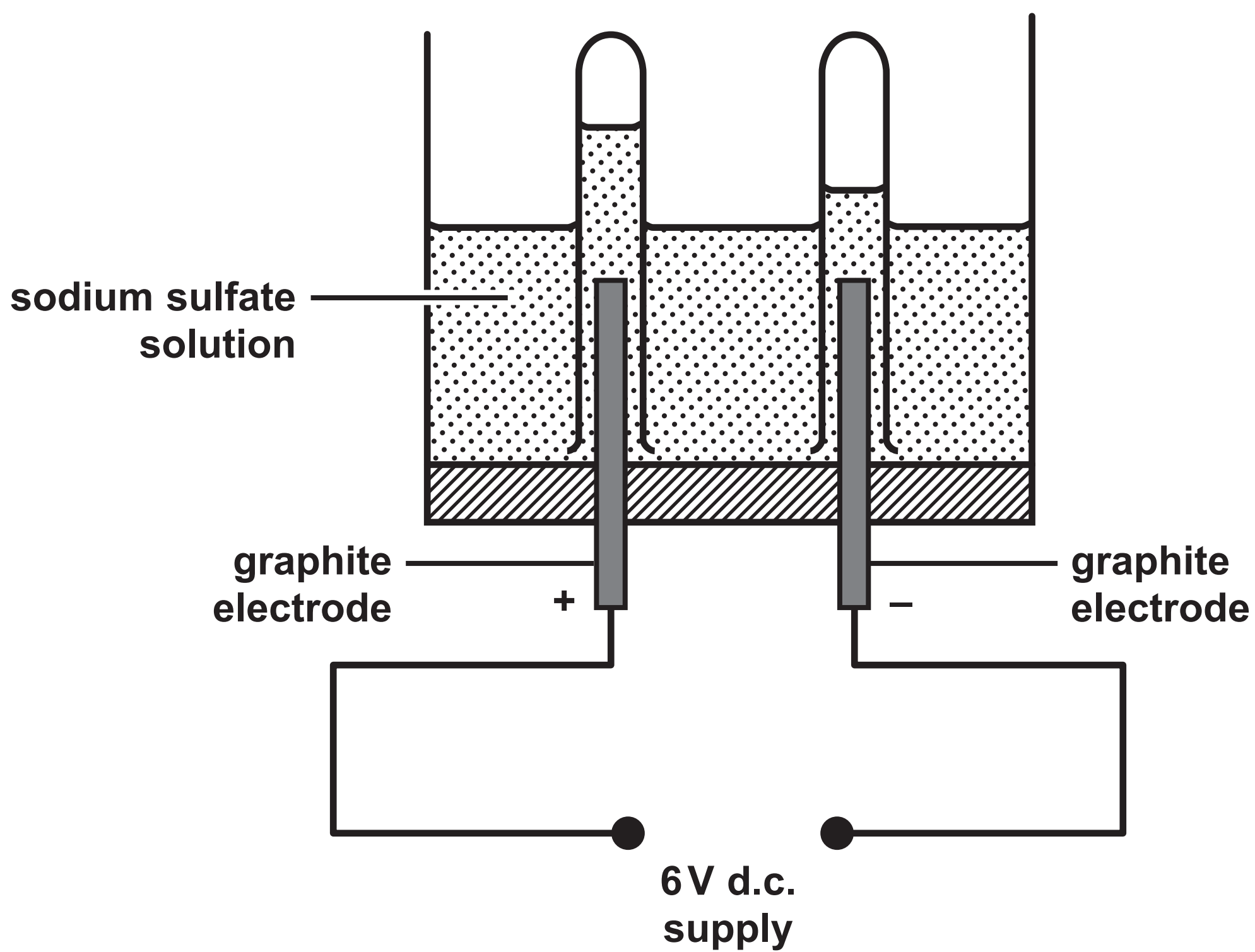
## Question 3(c)(ii)

FIGURE 5

| <b>property</b>                             | <b>predicted property</b> | <b>actual property</b> |
|---|---------------------------|------------------------|
| <b>relative atomic mass</b>                 | <b>about 68</b>           | <b>70</b>              |
| <b>density in g/cm<sup>3</sup></b>          | <b>about 6·0</b>          | <b>5·9</b>             |
| <b>melting point</b>                        | <b>lower than 40 °C</b>   | <b>29·8 °C</b>         |
| <b>density of oxide in g/cm<sup>3</sup></b> | <b>about 5·5</b>          | <b>5·9</b>             |

## Question 4(c)

FIGURE 6





**Question 4(c)(i)****FIGURE 7**

## Question 4(c)(i)

## FIGURE 7



Question 5(b)(iv)

pH of the  
mixture

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mass of barium hydroxide in g

Question 5(b)(iv)

pH of the mixture

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mass of barium hydroxide in g

Question 5(c)

FIGURE 9

