

Chemistry
PAPER 1
Foundation Tier

Friday 17 May 2024 – Morning

Time: 1 hour 45 minutes

Diagram Booklet

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

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

Surname					
Other names					
Centre Number					
Candidate Number					

INSTRUCTIONS

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

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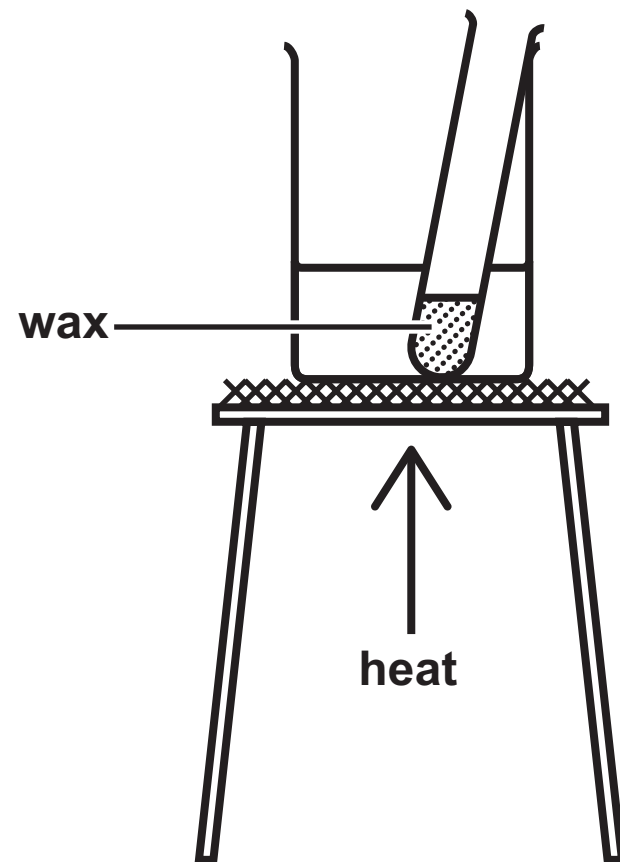
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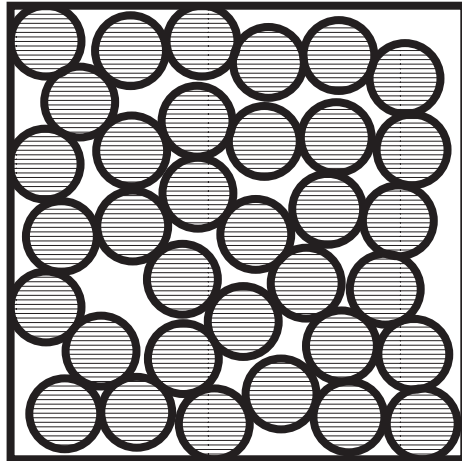
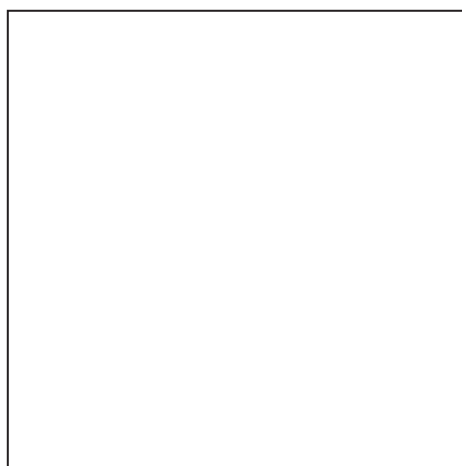
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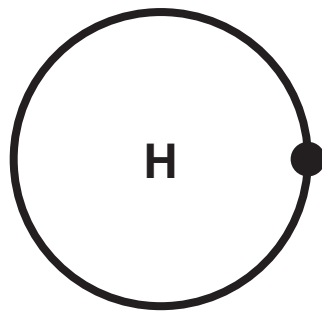
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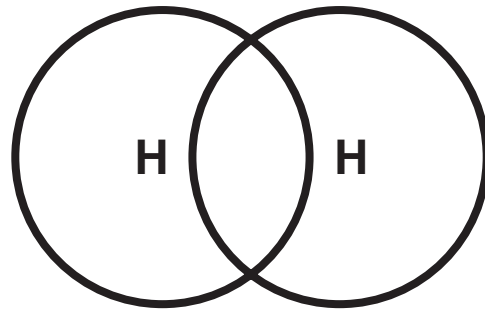
Question 1

FIGURE 1



Question 1(a)**FIGURE 2****FIGURE 3**

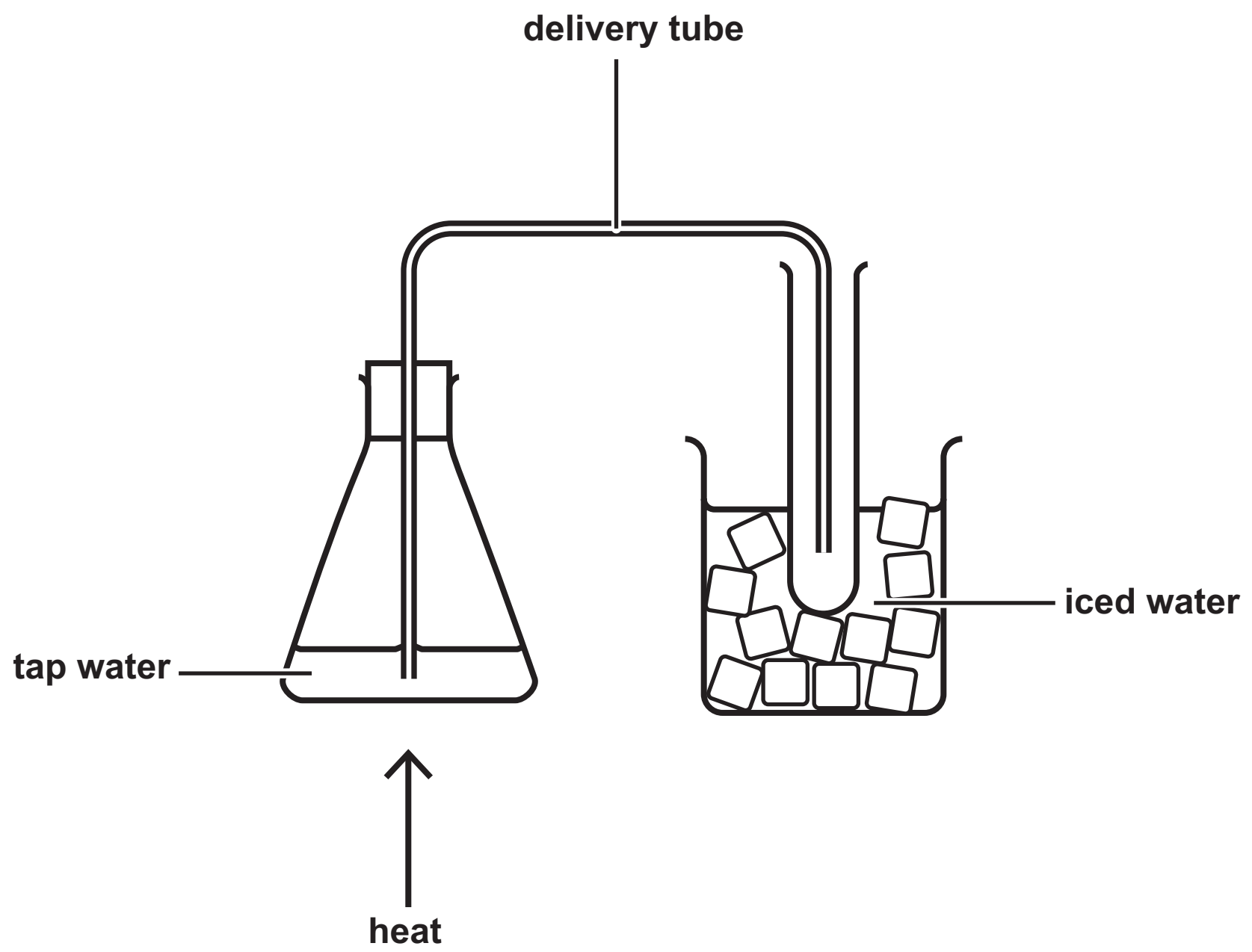
Question 2(a)(ii)**FIGURE 4**

Question 2(a)(ii)



Question 3(c)

FIGURE 5



Question 4

FIGURE 6

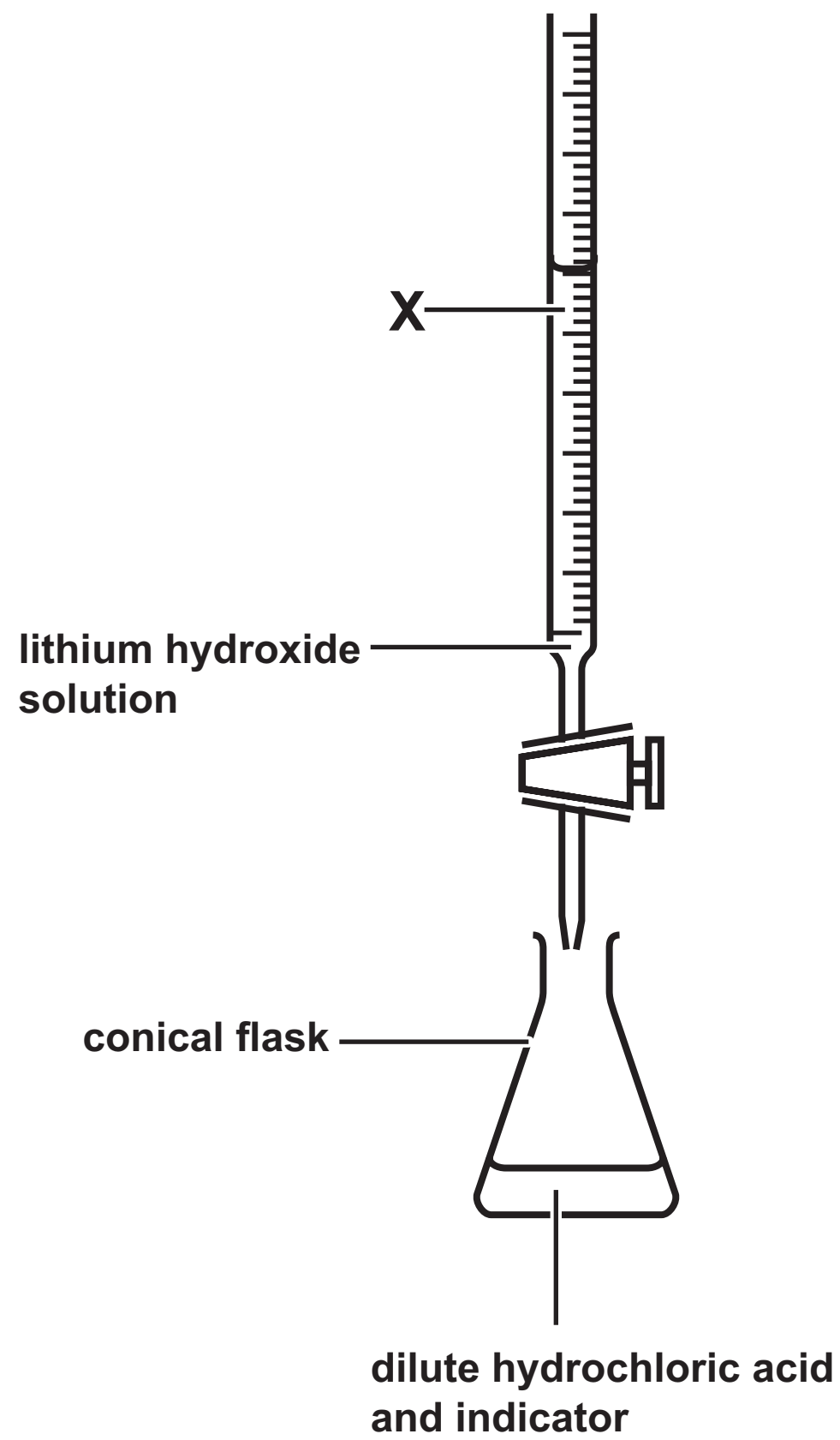
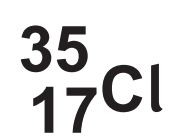


FIGURE 7

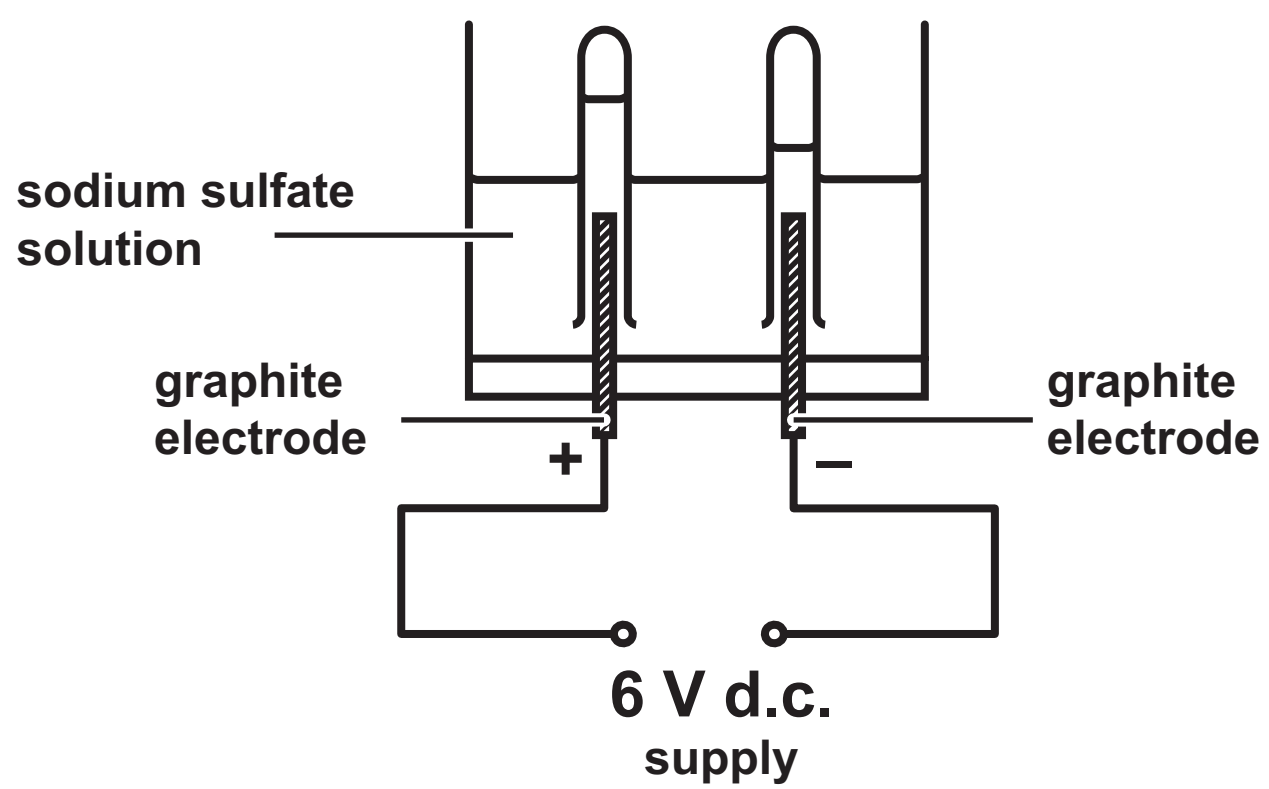
	rough titration	accurate titration 1	accurate titration 2	accurate titration 3
final reading on X in cm ³	29·15	28·20	27·30	27·60
initial reading on X in cm ³	1·50	3·50	2·50	3·00
volume of lithium hydroxide solution added in cm ³		24·70	24·80	24·60



Question 5(a)**FIGURE 8**

Question 6(c)

FIGURE 9

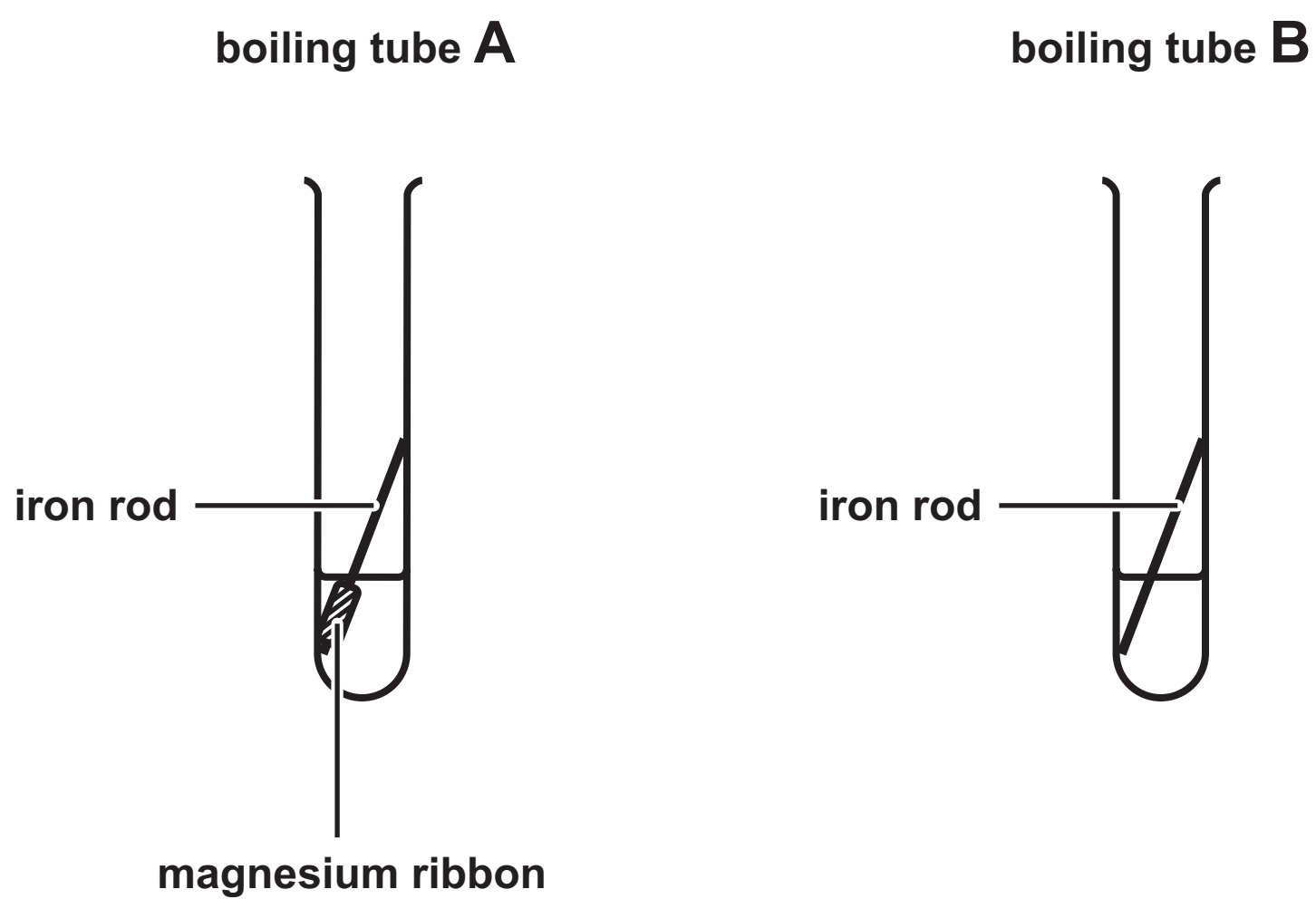


Question 6(c)(iii)

ELECTRODE	PRODUCT
	hydrogen
anode	hydroxide
cathode	oxygen
	sodium

Question 7(a)

FIGURE 10



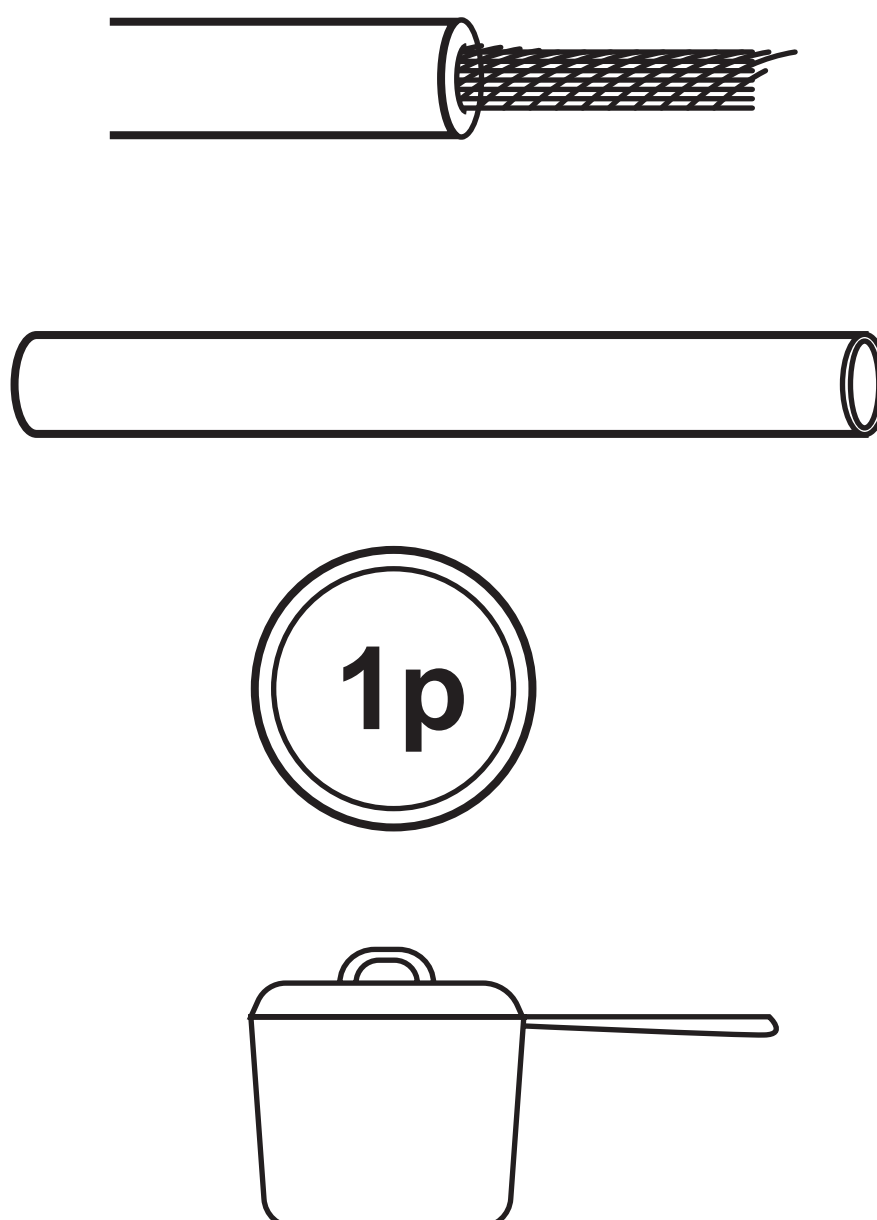
Question 7(a)

FIGURE 11

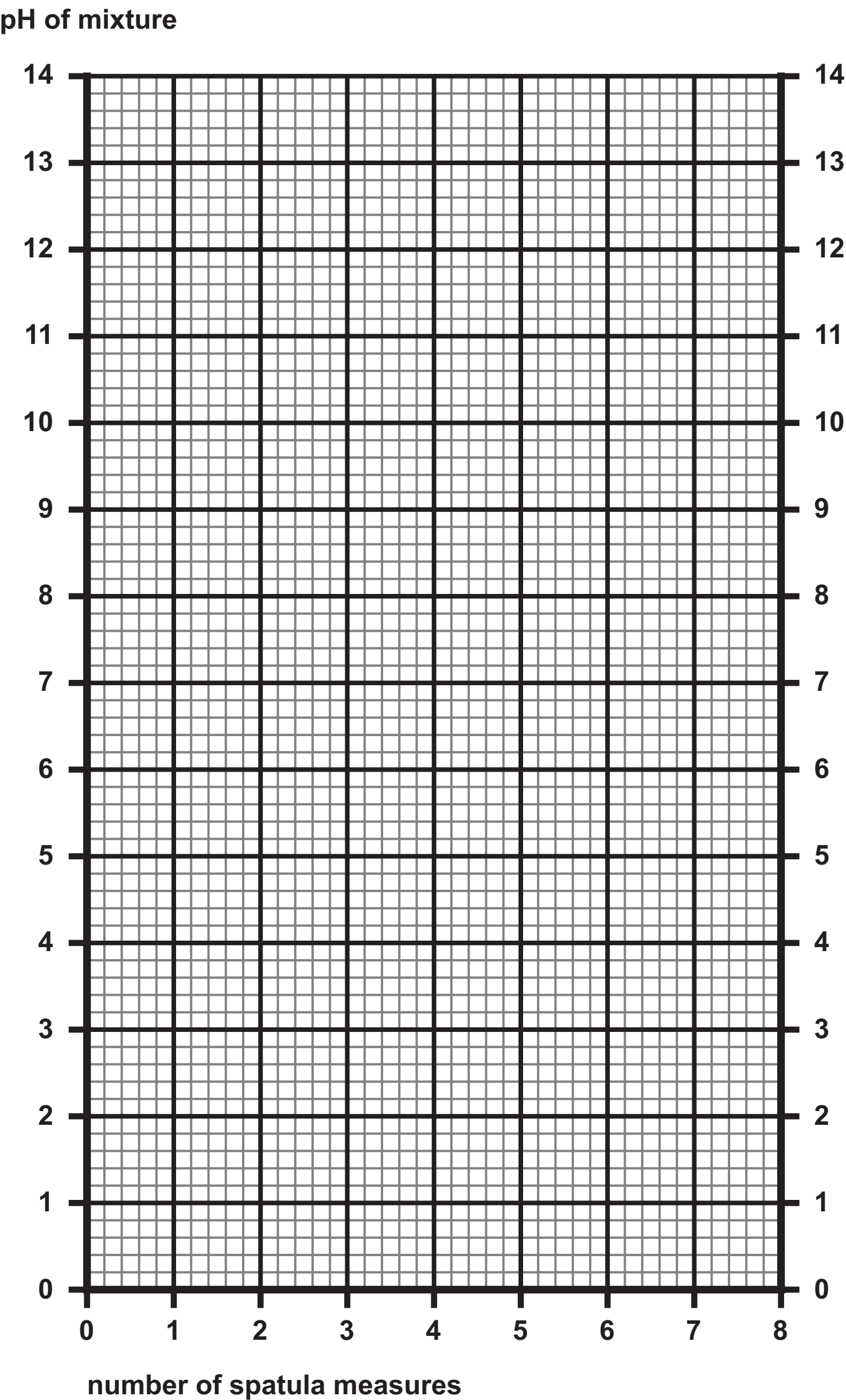
	initial mass of iron rod in g	final mass of iron rod in g	change in mass in g
boiling tube A	7.00	7.00	0.00
boiling tube B	7.00	7.56	

Question 7(b)

FIGURE 12



Question 8(b)(iii)



Question 8(c)

FIGURE 14



Question 9(c)

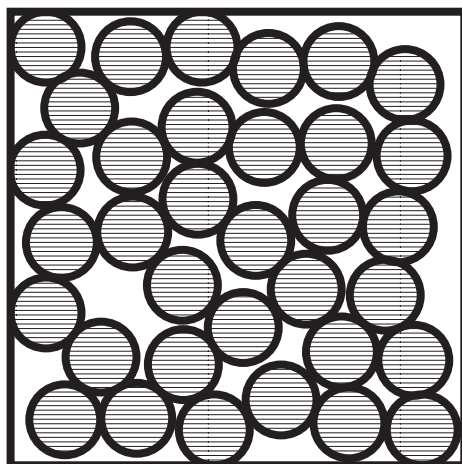
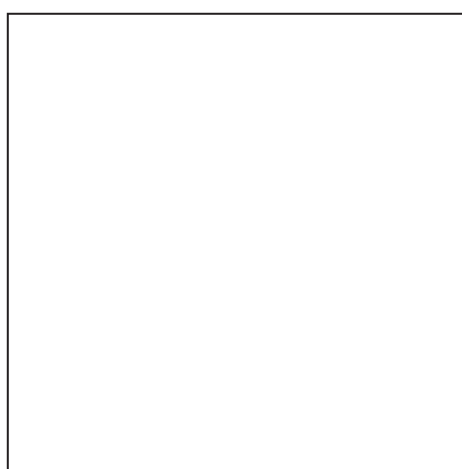
FIGURE 15

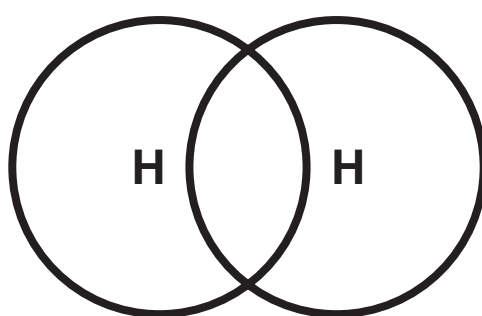
observations and results			
	reaction with dilute sulfuric acid	gas bubbled through limewater	gas tested with a lit splint
solid A	bubbles seen colourless solution formed	no change	squeaky pop
solid B	blue solution formed some black solid remains at bottom of test tube	no gas produced	no gas produced
solid C	bubbles seen colourless solution formed	limewater turned cloudy	puts out lit splint

Question 10(a)(i)

FIGURE 16

	mass in tonnes
mass of titanium oxide	100·00
mass of titanium produced	45·26
theoretical mass of titanium formed	60·00

Question 1(a)**FIGURE 2****FIGURE 3**

Question 2(a)(ii)

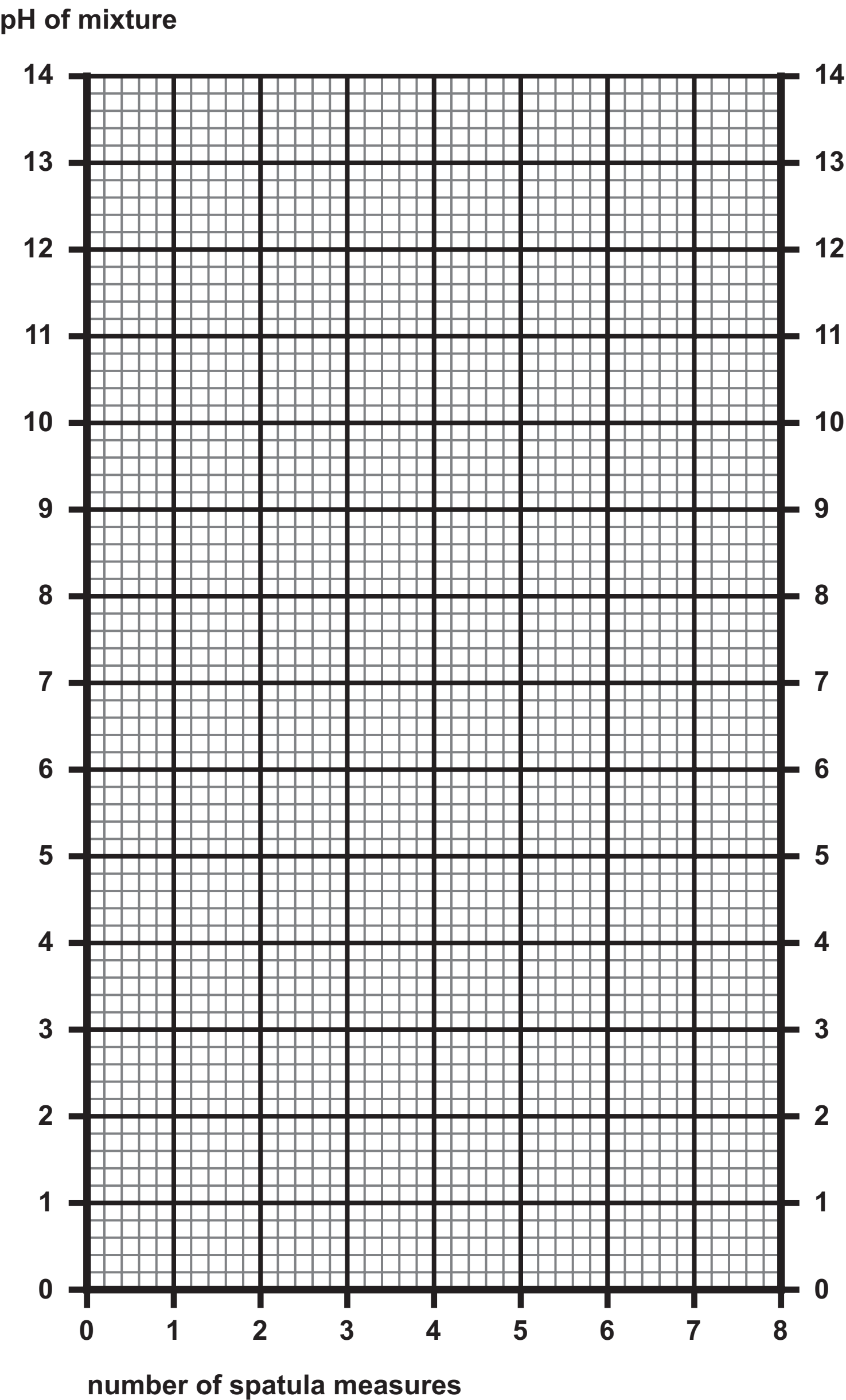
$$\frac{\quad}{\quad} + \frac{\quad}{\quad} \uparrow \frac{\quad}{\quad}$$



Question 6(c)(iii)

ELECTRODE	PRODUCT
	<div>hydrogen</div>
<div>anode</div>	<div>hydroxide</div>
<div>cathode</div>	<div>oxygen</div>
	<div>sodium</div>

Question 8(b)(iii)



Source information:

Question 7(b)

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