

Combined Science  
PAPER 2  
Higher Tier

Friday 17 May 2024 – Morning

Time: 1 hour 10 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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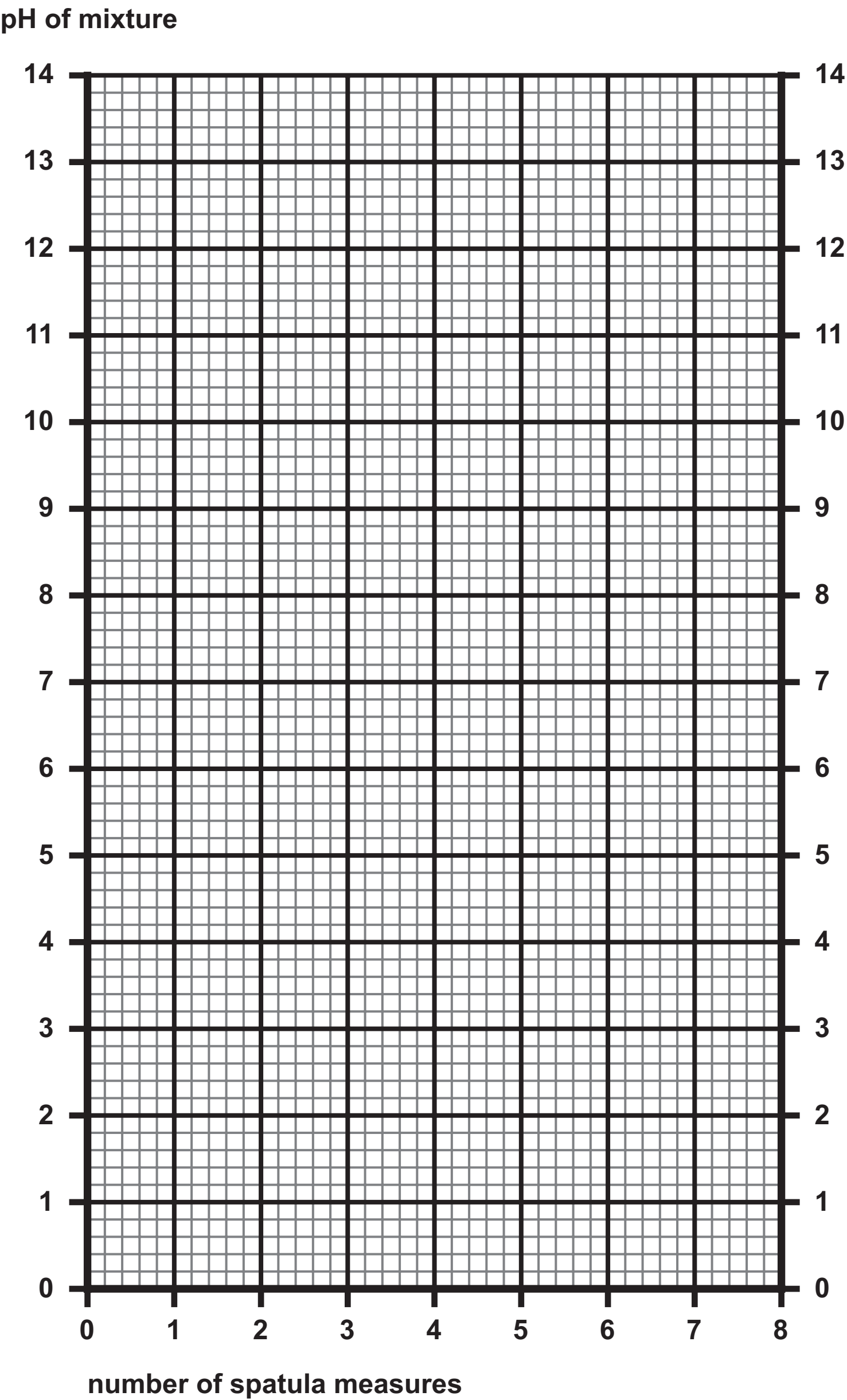
### Spare Copies

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## Question 1(a)(i)



Question 1(b)(iii)



## Question 4(a)

FIGURE 2

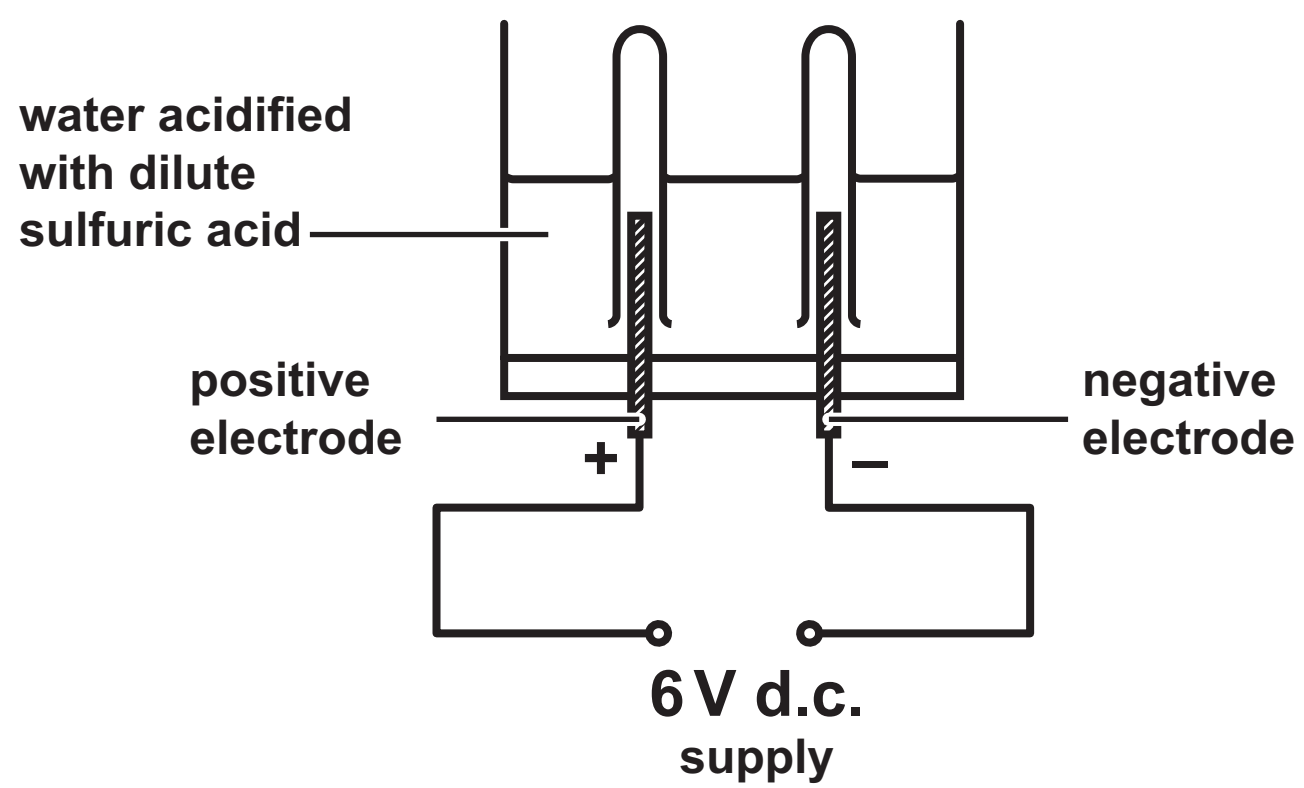


diagram A

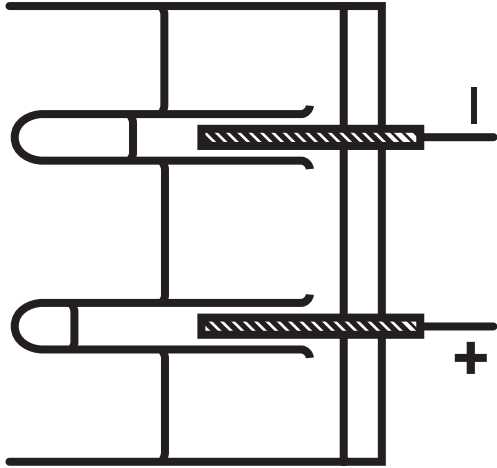


diagram B

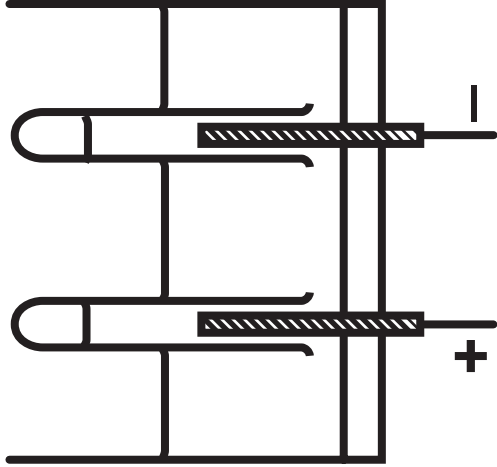


diagram C

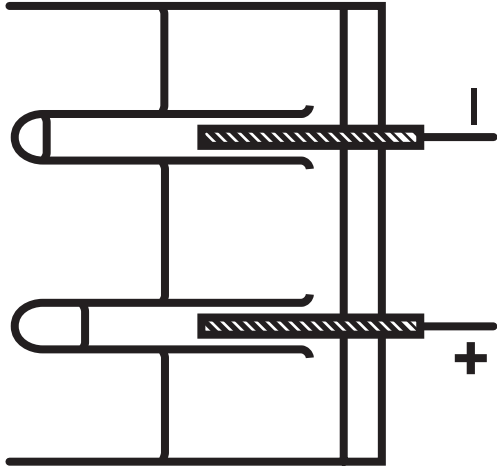
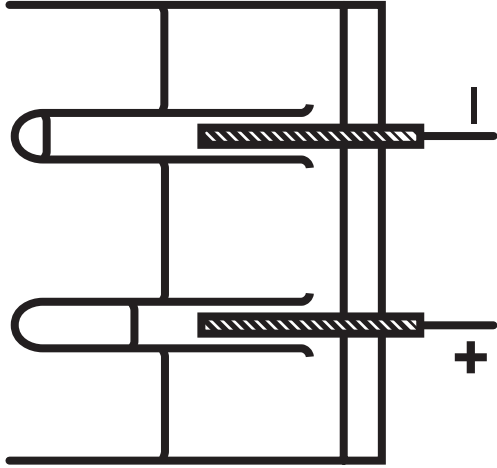


diagram D



Question 4(b)

FIGURE 3

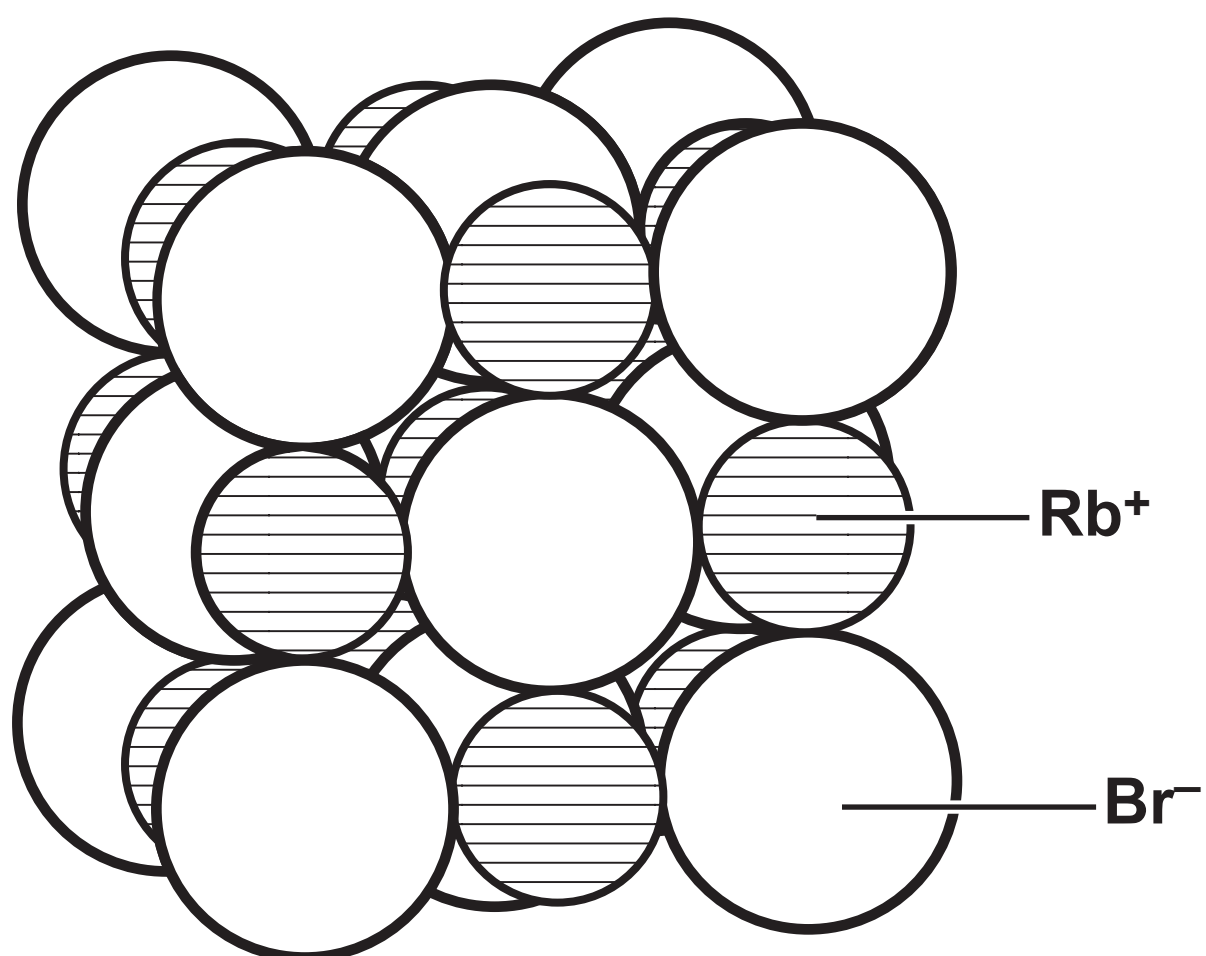
	mass of cathode in g	appearance of copper sulfate solution
before electrolysis	5.32	pale blue solution
after electrolysis	5.87	pale blue solution

**Question 5(a)(i) - Blank**



## Question 5(b)

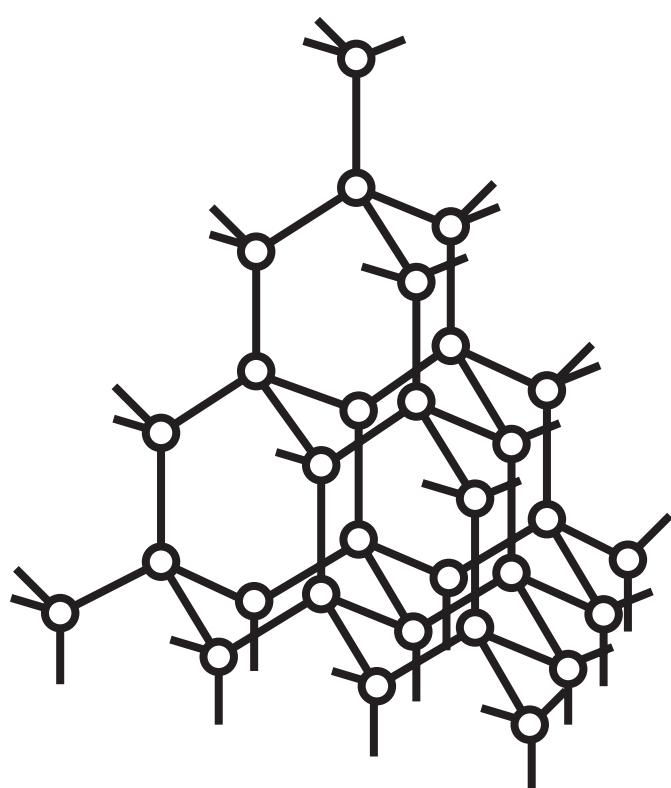
FIGURE 4



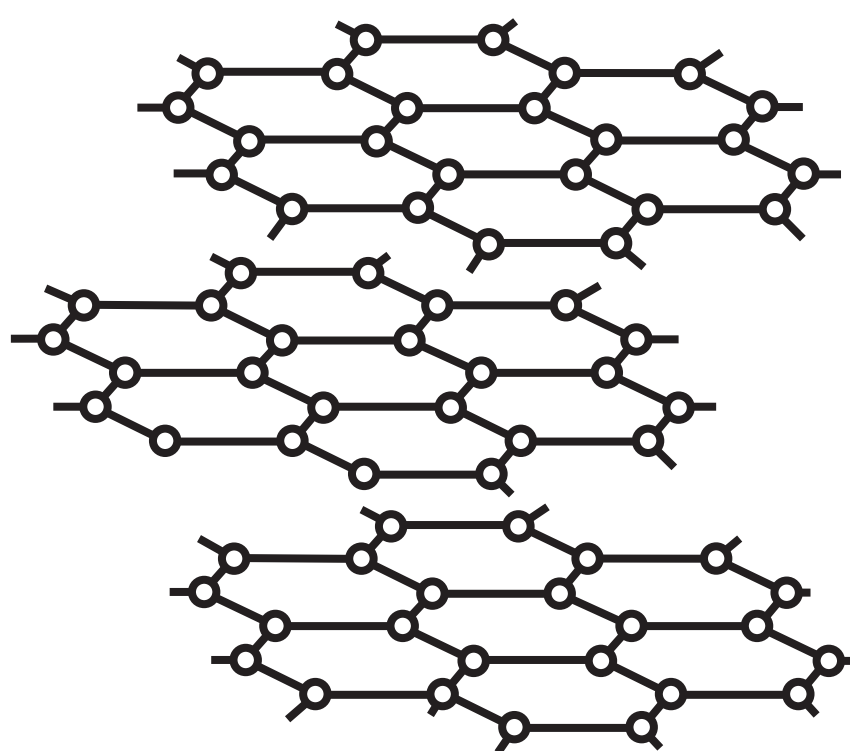
## Question 5(c)

FIGURE 5

diamond



graphite



## Question 6(a)

FIGURE 6

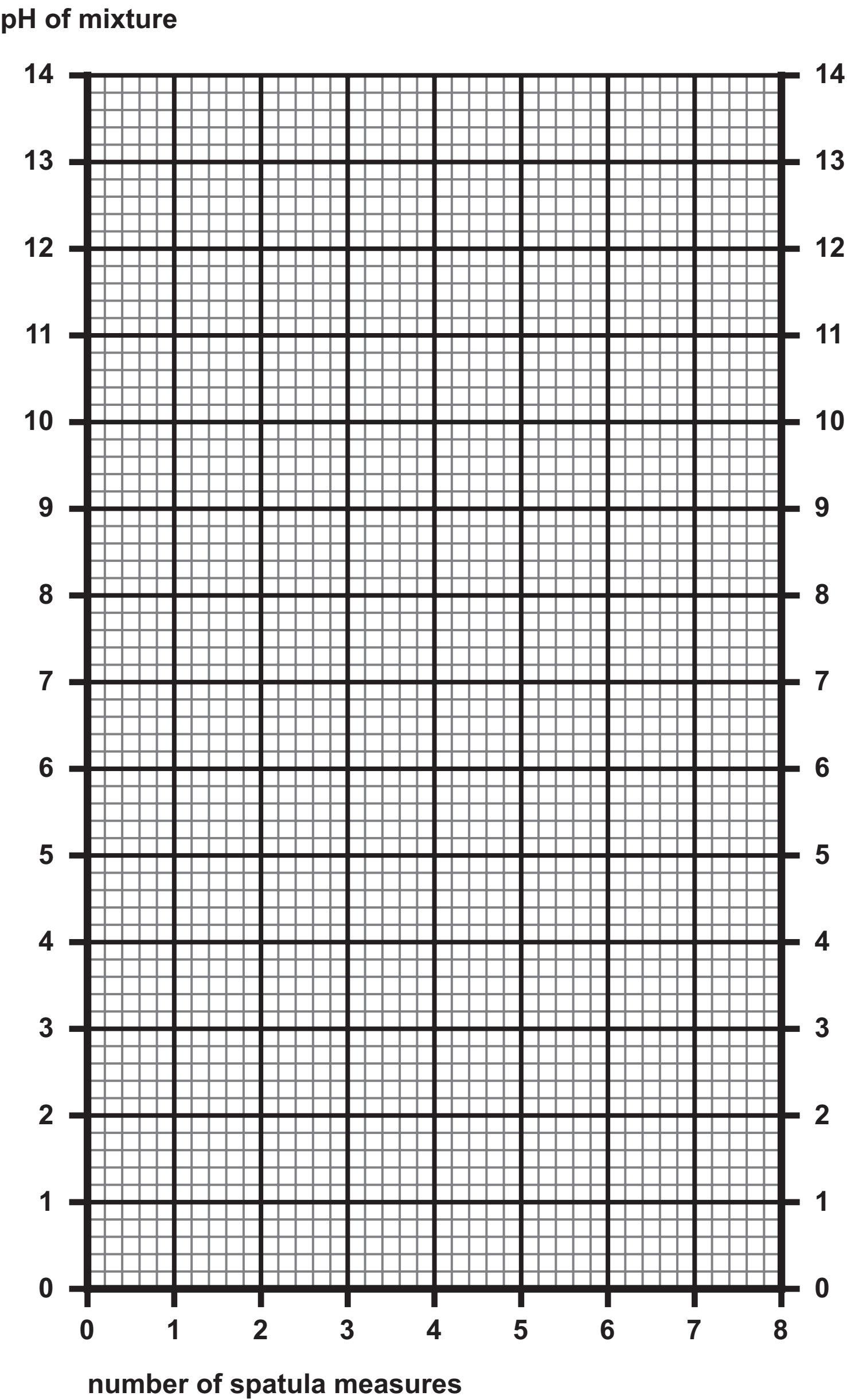
metal	observations with dilute hydrochloric acid
<b>D</b>	Bubbles formed quickly. After three minutes all the metal had reacted.
<b>E</b>	Bubbles formed very quickly. No metal remaining after three minutes.
<b>F</b>	A few bubbles were seen to form. The metal looked unchanged after three minutes.
<b>G</b>	

## Question 6(a)

FIGURE 7

<b>E</b>	<b>D</b>	<b>G</b>	<b>F</b>
most reactive			least reactive

Question 1(b)(iii)



**Question 5(a)(i) - Blank**