

Biology  
UNIT: 4BI1  
PAPER: 2B

Friday 17 November 2023 – Morning

Diagram Booklet

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.

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



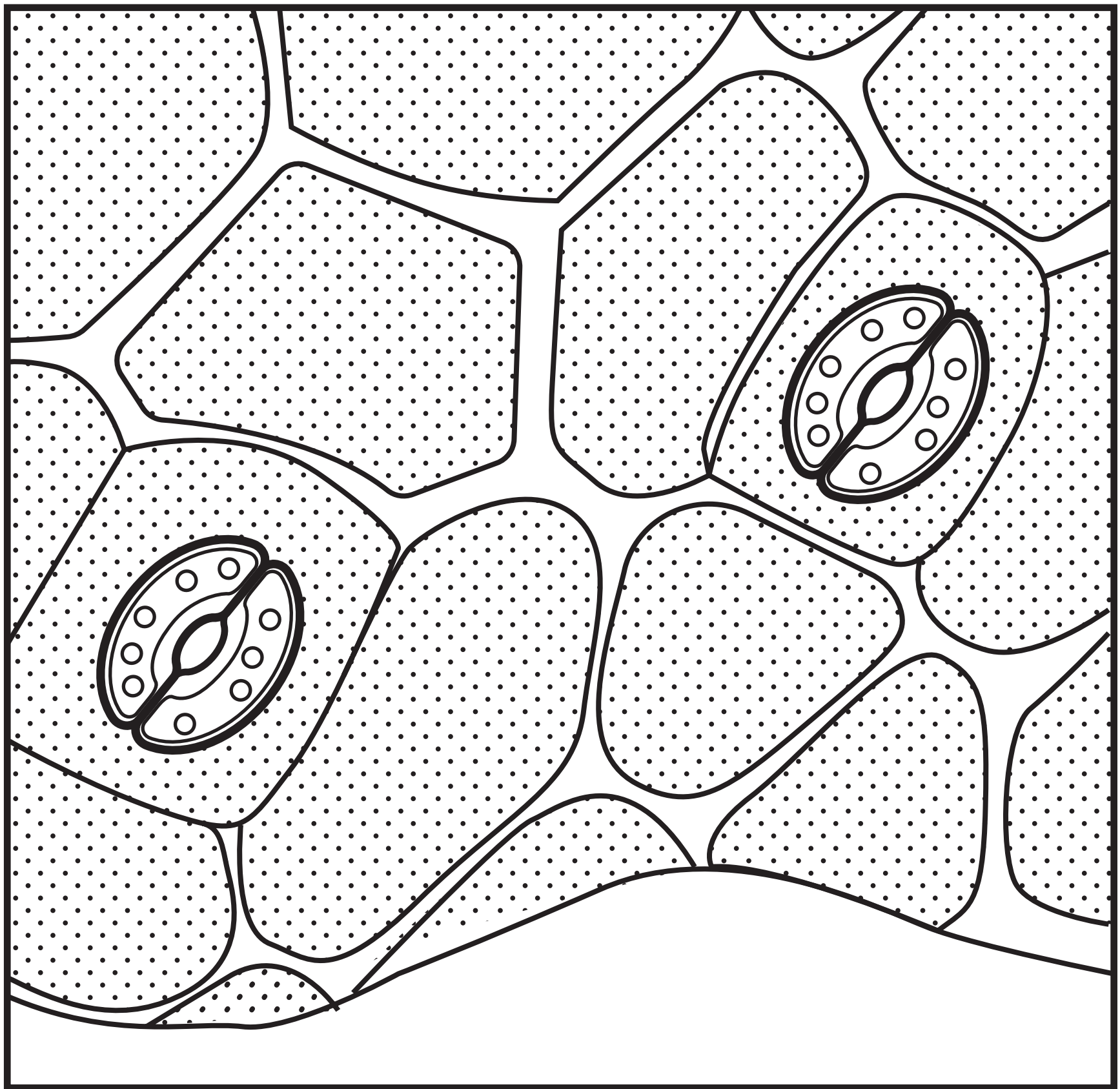
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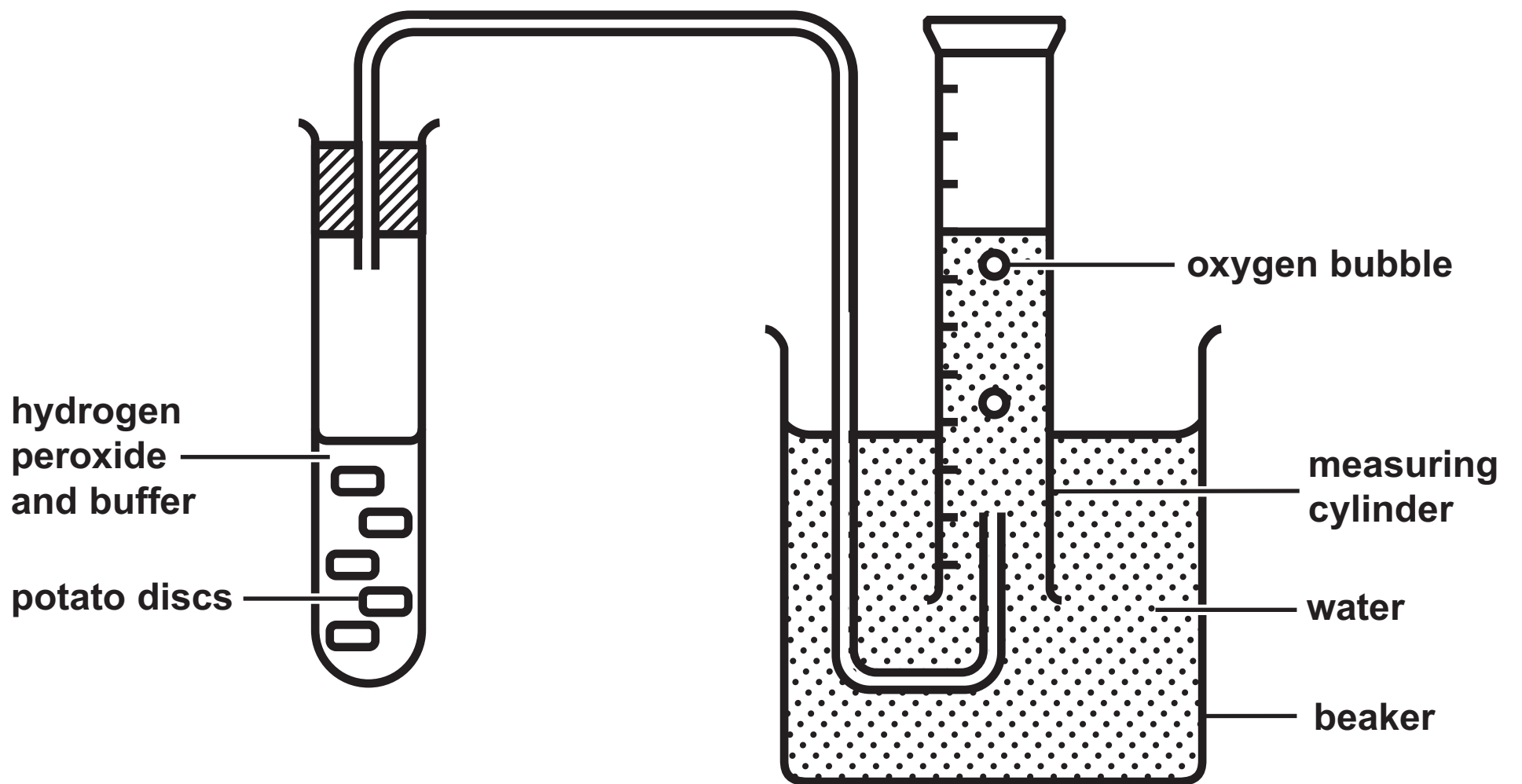
## Question 1(f)



← 400  $\mu\text{m}$  (0.4 mm) →



## Question 2



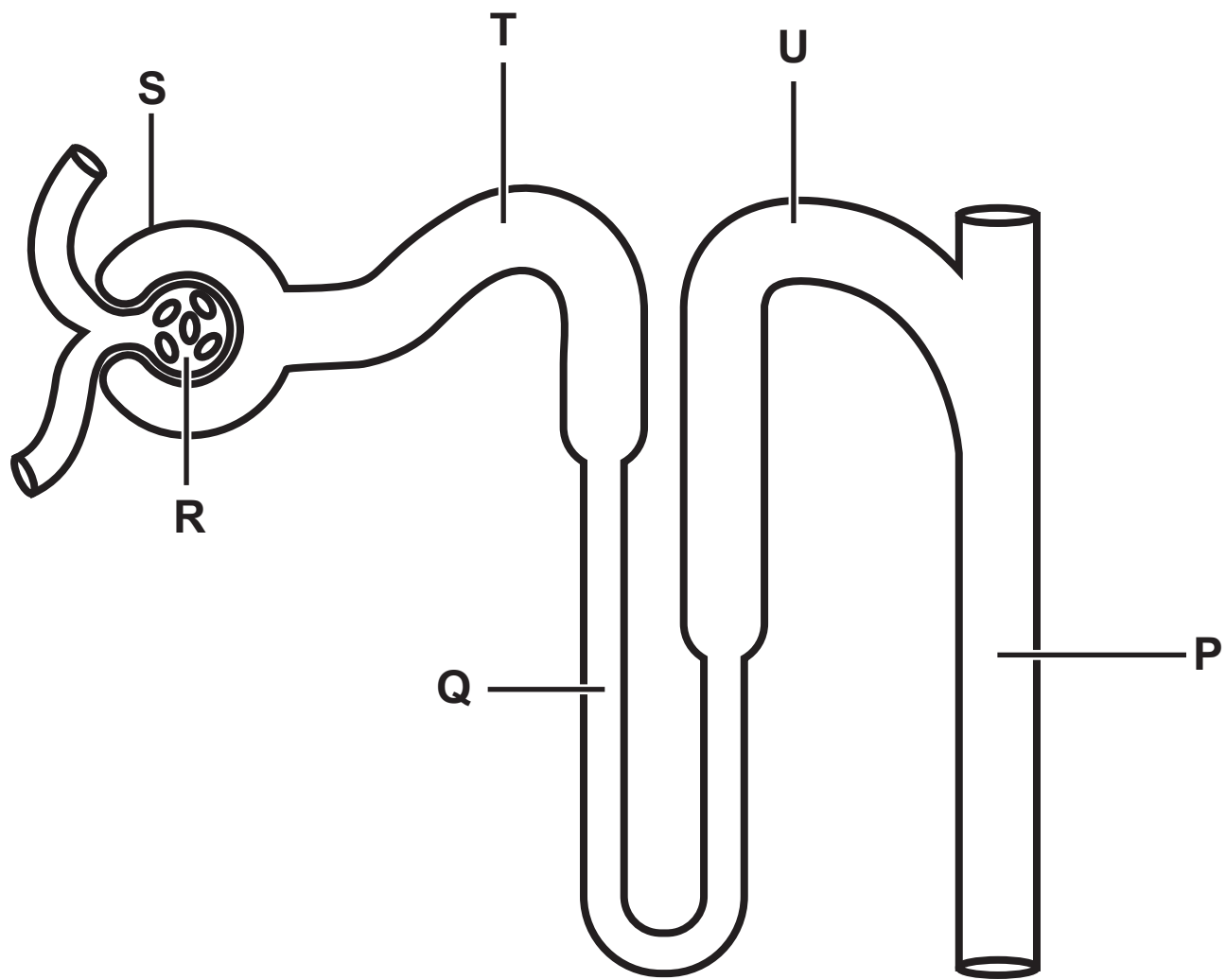


Question 2(d)

pH of solution	Volume of oxygen after 5 minutes in cm <sup>3</sup>	Mean rate of reaction in cm <sup>3</sup> per minute
4	4	0·8
5	6	1·2
6	7	1·4
7	12	2·4
8	3	0·6



## Question 3(a)



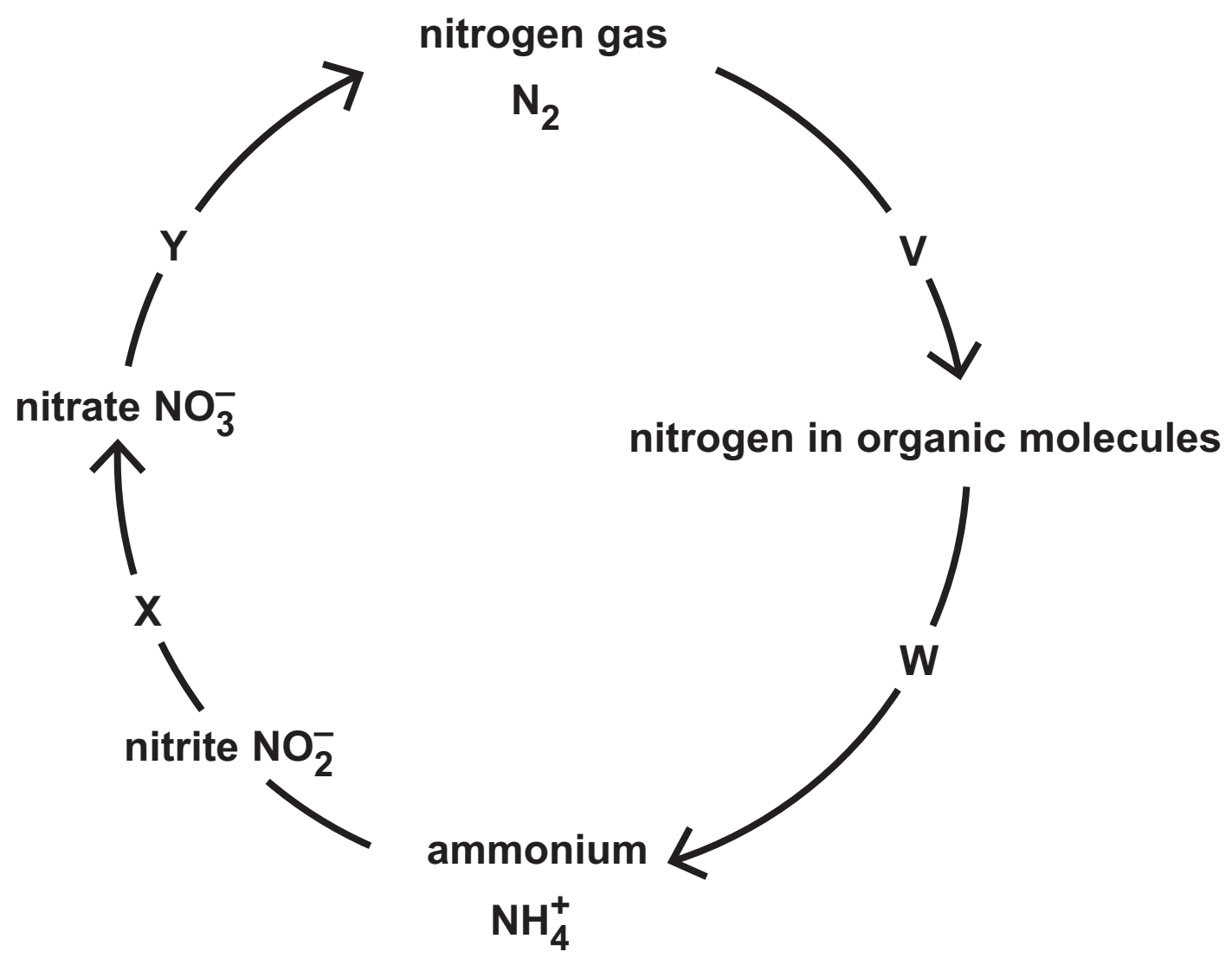


Question 4(c)

Yeast strain	Mutation rate × 10 <sup>8</sup> per division per cell	
	mitosis	meiosis
5160	6·53	45·4
	4·86	29·6
5207	5·90	132·6
	5·03	43·2
5209	0·21	2·20
	0·28	1·42

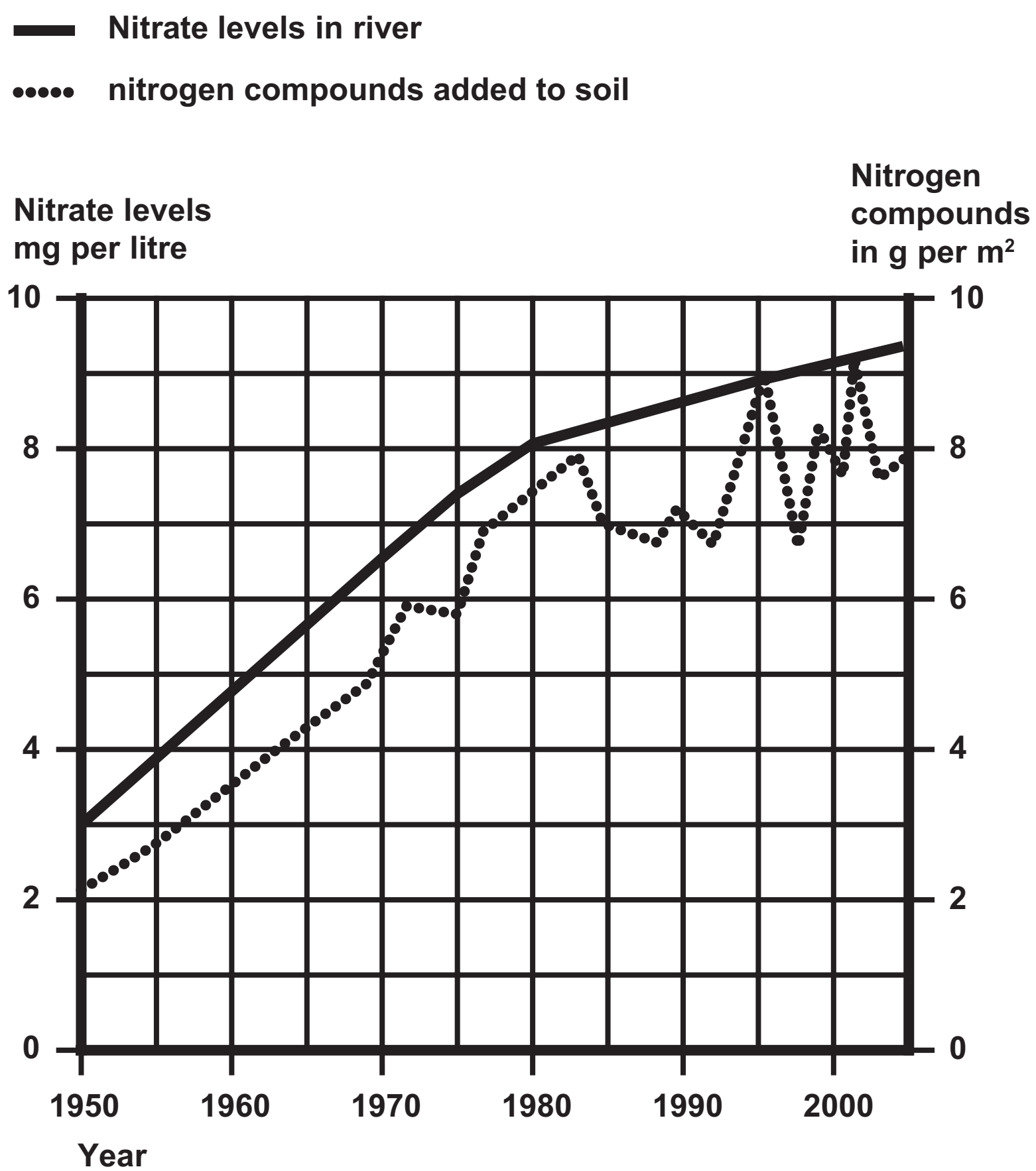


## Question 5(a)





## Question 5(b)





**Question 1(f)**

**(Source adapted from: © Kallayanee Naloka/Shutterstock)**

**Question 5(b)**

**(Source adapted from: Graph: Trends in Nitrate Levels in Maumee River | U.S. Geological Survey (usgs.gov))**