

National 5 Biology

Proteins & Enzymes

1. Write down 4 different functions of proteins. (4)
2. What do we call biological catalysts? (1)
3. What do we call the molecule an enzyme acts upon? (1)
4. What do we call the molecule(s) made at the end of an enzyme reaction? (1)
5. Name 2 conditions which affect the rate at which an enzyme works. (2)
6. Copy and complete the table.

Term	Description
Active site	
	Term used to describe the condition of a factor at which an enzyme works best
Denatured	
	Substance formed as a result of an enzyme controlled reaction
Specificity	
	Type of organic chemical of which enzymes are composed
Substrate	

(7)

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7. The following table shows the results from an experiment set up to investigate the effect of temperature on the rate of an enzyme reaction.

Temperature (°C)	Mass of Substrate broken down (mg)
0	0
5	3
10	10
15	16
20	24
25	31
30	40
35	52
40	48
45	42
50	23
55	8
60	0

- (a) Present the results from the table as a line graph. (4)
- (b) What is the optimum temperature for this enzyme? (1)
- (c) Explain why there is no substrate broken down at 60°C. (1)
- (d) Predict the mass of substrate broken down at 33°C. (1)
- (e) By how many times was the rate of activity greater at 40°C than at 55°C? (1)
- (f) Which rise in temperature of 5°C brought about the biggest increase in enzyme activity? (1)
- Total - 25**