



Enzymes - How They Work

1 Define the term 'catalyst'

A catalyst is a substance which increases the speed of a reaction without being changed or used up in the process

[2 marks]

2 What is the difference between a catalyst and an enzyme?

An enzyme is a special type of catalyst made by living organisms.

[1 mark]

3 Name two models of enzyme action and state the difference between them.

Lock and key model

Induced fit model

The lock and key model suggests that the substrate perfectly fits the active site, while the induced fit model suggests that the binding of the enzyme and substrate induces a shape change so that they fit together better.

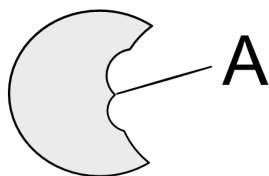
[4 marks]

4 Which of the two models is more accurate?

Induced fit model

[1 mark]

5 The diagram below shows an enzyme. Name the area labelled 'A' and state the general name of the molecule that would fit there.



A - Active site

Molecule that fits in A - Substrate

[2 marks]

GCSE Biology

4 Consider the following sentences and mark them as true 'T', or false 'F'

F A single enzyme is able to catalyse a variety of different types of reactions

T Enzymes are made from long chains of amino acids

T A single enzyme can catalyse the same reaction multiple times in its life

F Enzymes are completely rigid, unless the substrate fits the active site 100% perfectly, the enzyme will not catalyse the reactions

[4 marks]

[Total - 14 mark]