

1

CHEMICAL REACTION

reactants

→

products

2

Reactants

(left side of the arrow)

Product

(right side of the arrow)

$\text{NH}_3 + \text{HCl} \longrightarrow \text{NH}_4\text{Cl}$

3

Reactants- the starting molecules

$6\text{CO}_2 + 6\text{H}_2\text{O}$

Products- the final molecules

$\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$

chemical change

4

$2\text{H}_2 + \text{O}_2 \longrightarrow 2\text{H}_2\text{O}$

Reactants (Substrates)

Products

5

Reactants (substrates)

Product

6

1

Substrates

2

ENZYME + Substrates

3

Product

7

Reactants

Enzyme-Substrate Complex

Products

8

Substrate attaches to enzyme

Reaction takes place

Products leave enzyme

9

Reactant Molecules

ENZYME

ENZYME

10

Enzyme 1

Enzyme 1's active site

Enzyme 2

Enzyme 2's active site

Enzyme 3

Enzyme 3's active site

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Enzyme 1

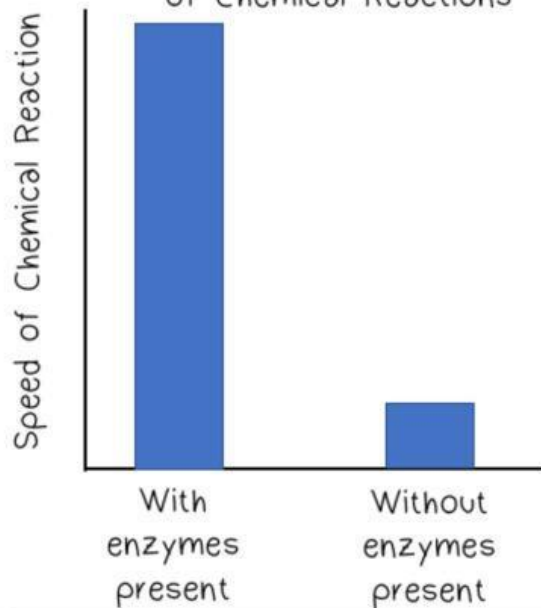
Enzyme 2

Enzyme 3

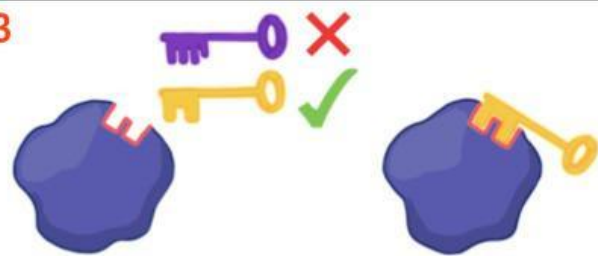
LIVEWORKSHEETS

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Enzyme Effect on the Speed of Chemical Reactions



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The active site matches the yellow key

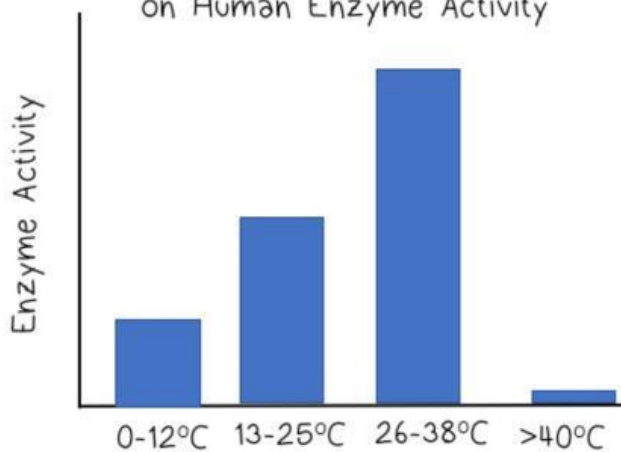
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Enzymes work like a lock & key



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The Effect of Temperature on Human Enzyme Activity



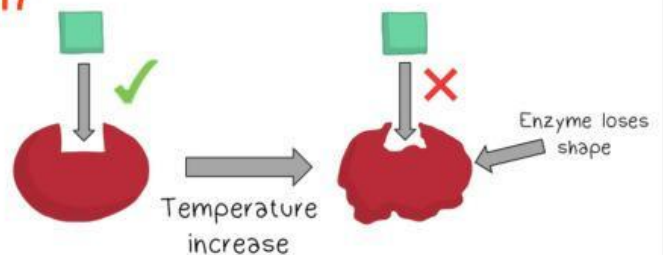
16



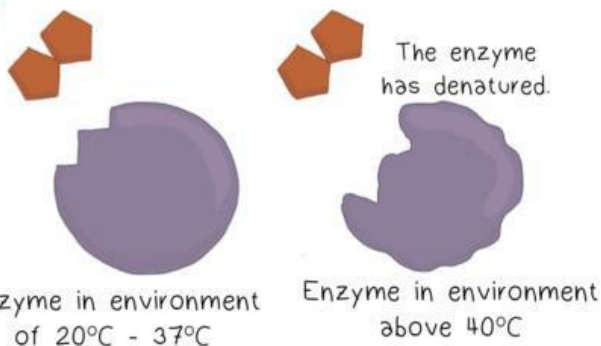
Enzyme in environment of 15°C - 30°C

Enzyme in environment above 32°C

17



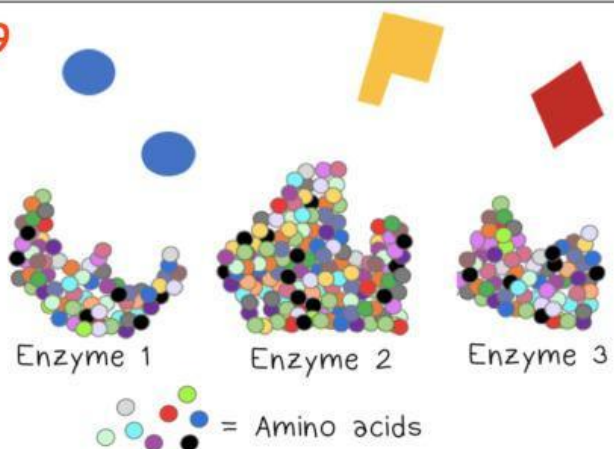
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Enzyme in environment of 20°C - 37°C

Enzyme in environment above 40°C

19



Enzyme 1

Enzyme 2

Enzyme 3

= Amino acids