ENZYMES:

1.

CHEMICAL REACTION

reactants → products

2.

Reactants (left side of the arrow) → Product (right side of the arrow)

$NH_3 + HCl \rightarrow NH_4Cl$

3.

Reactants- the starting molecules

Products- the final molecules

$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$

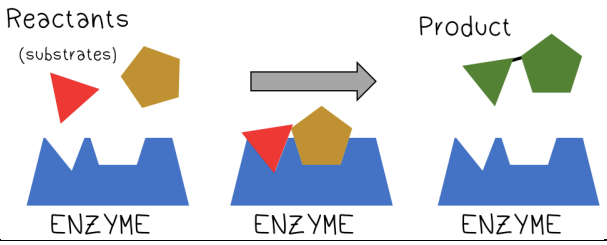
chemical change

4.

$2H_2 + O_2 \rightarrow 2H_2O$

Reactants (Substrates) → Products

5.



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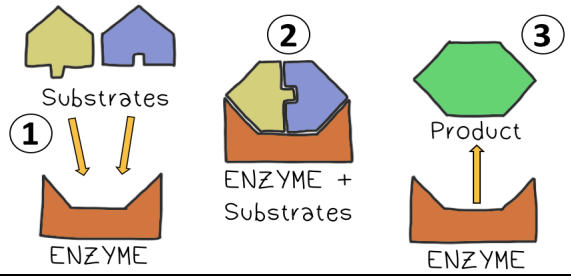

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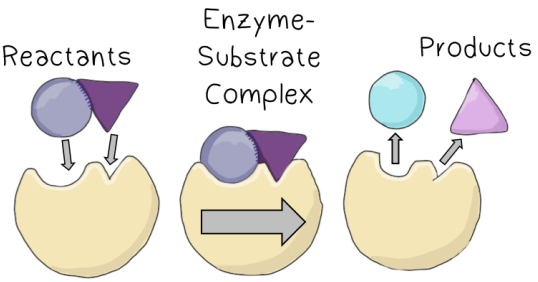

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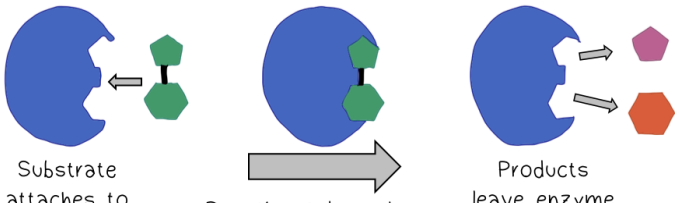

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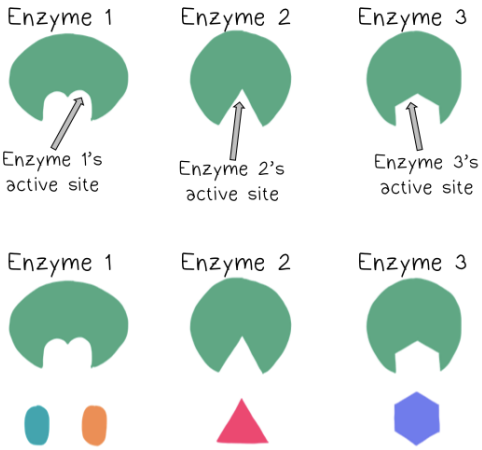

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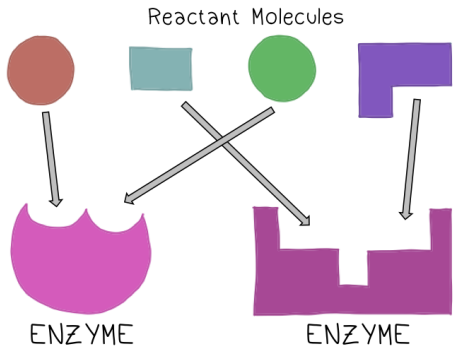
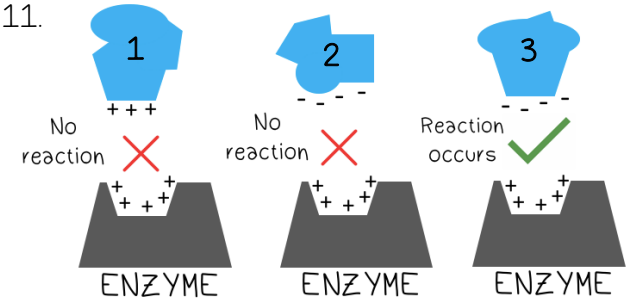
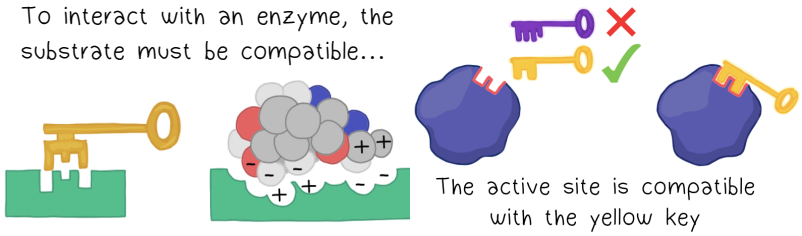


11.

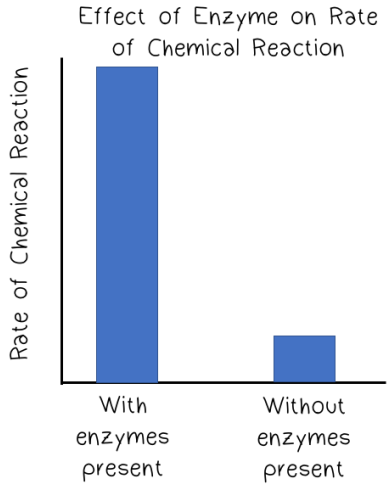


12.

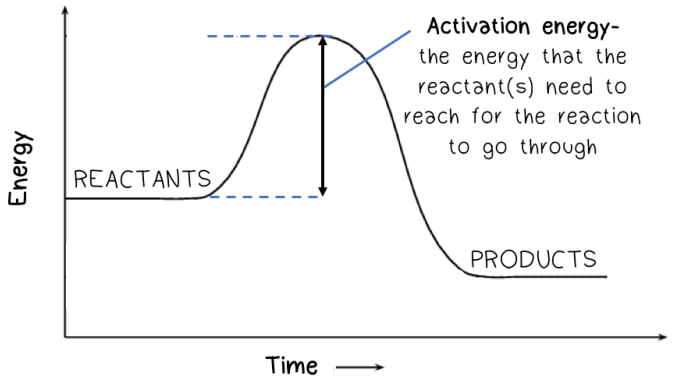
To interact with an enzyme, the substrate must be compatible...



13.



14.



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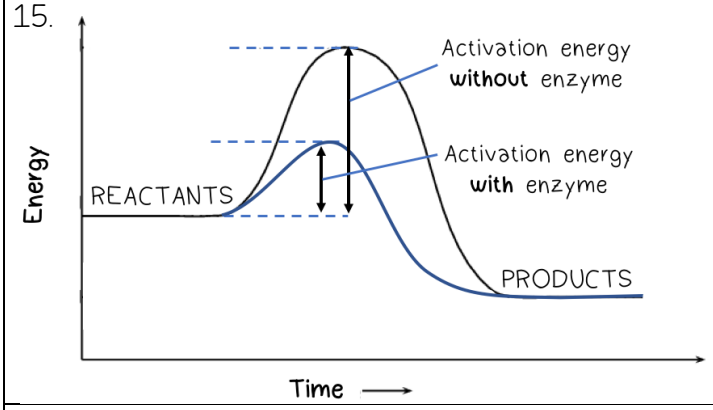

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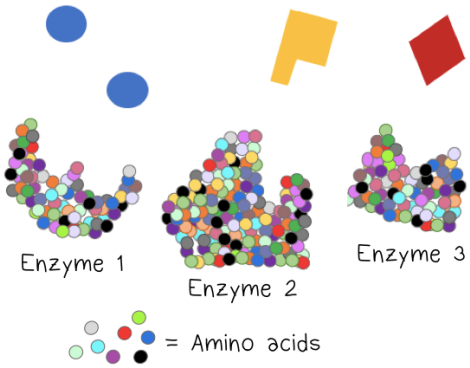
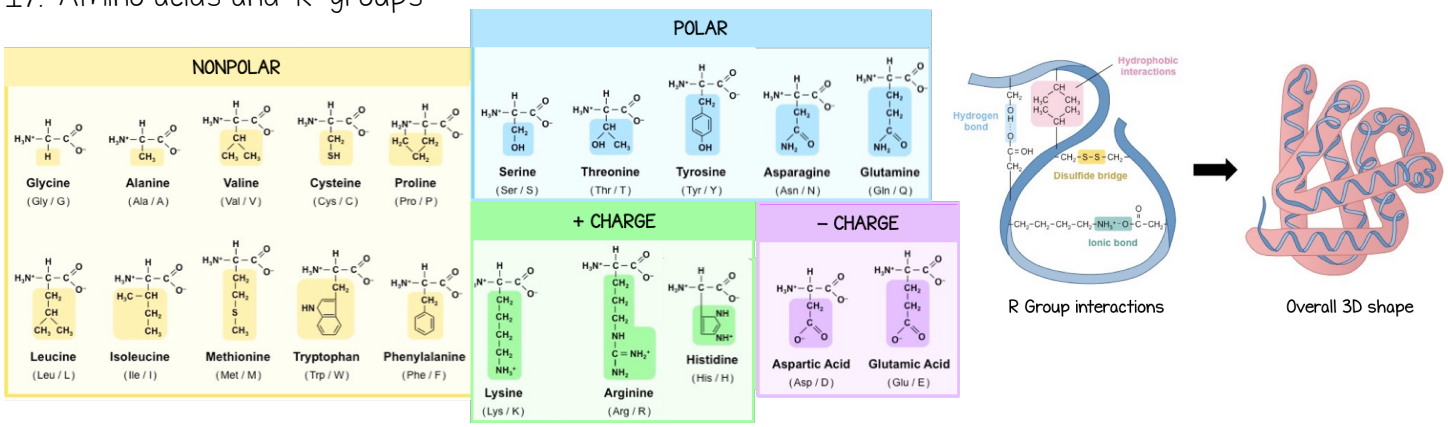


17. Amino acids and 'R' groups



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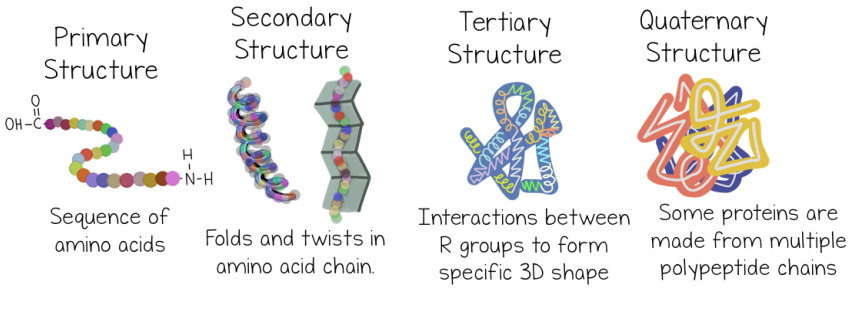

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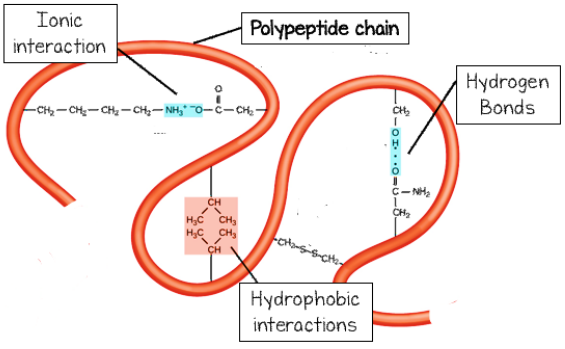

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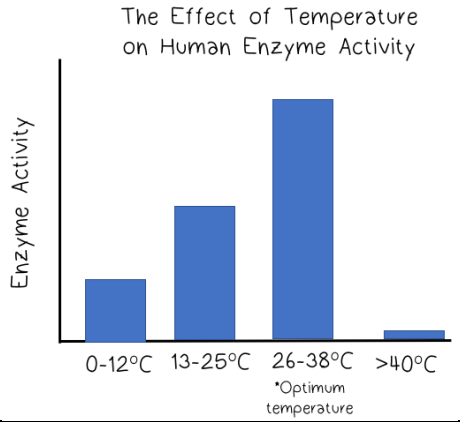

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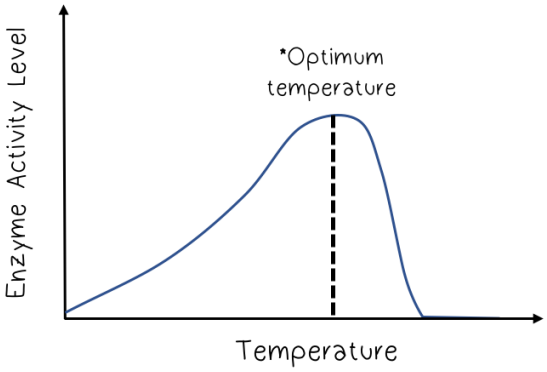
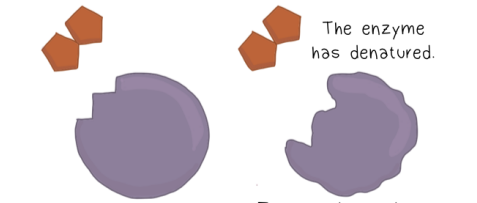


22.

23.



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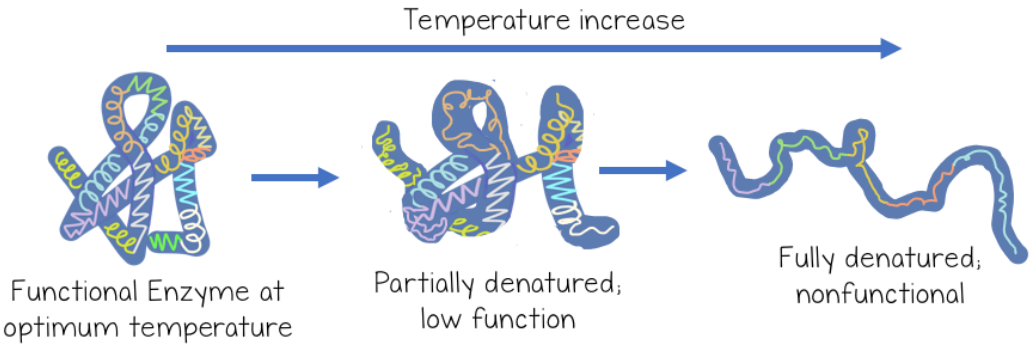

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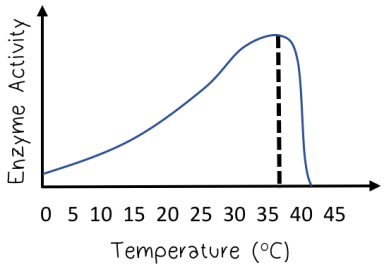
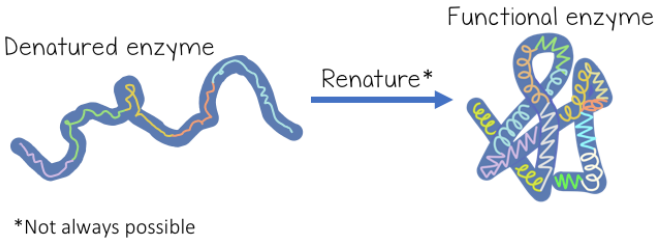


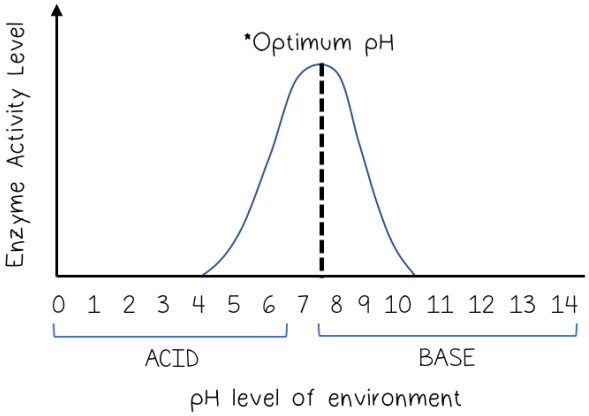
Temperature	Enzyme Shape
0–37 °C	
38–42 °C	
>42 °C	

26.

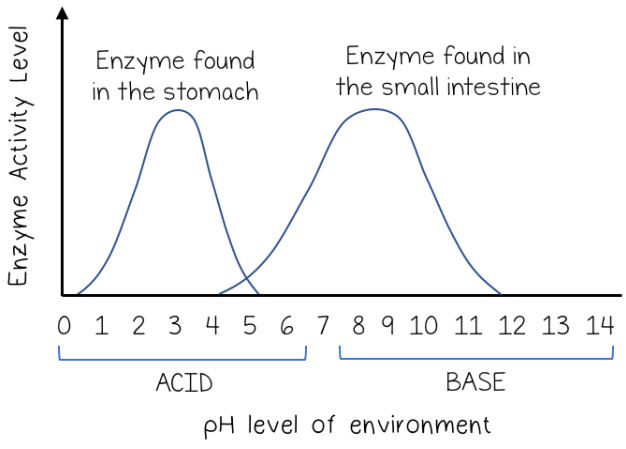


EXTENSION: Other factors that affect enzyme activity and rate of reaction.

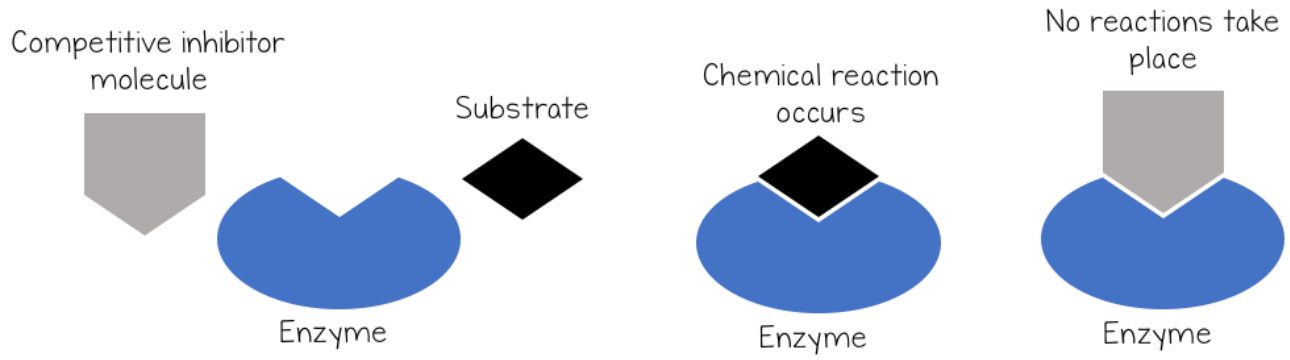
27.



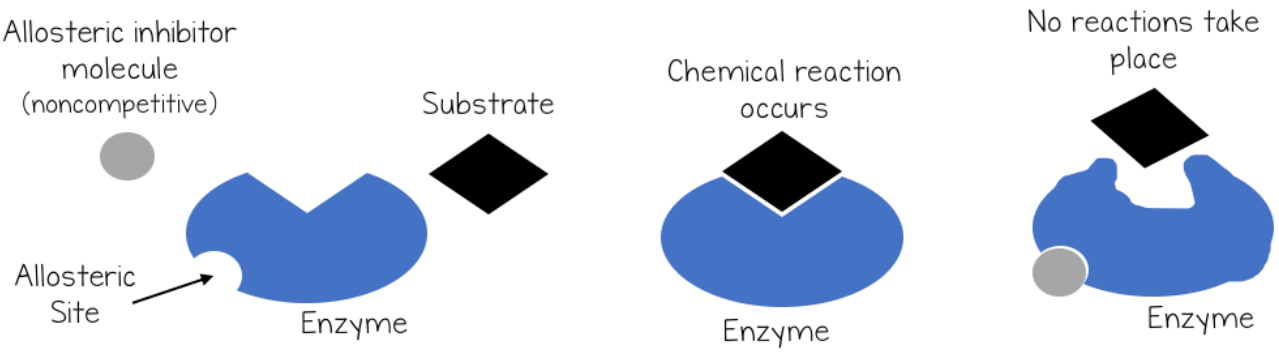
28.



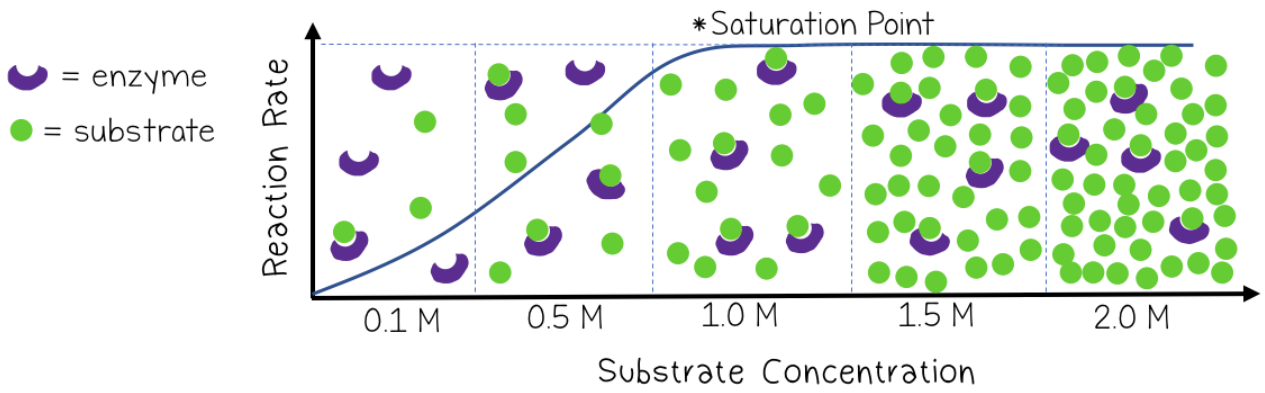
29.


Competitive inhibitor molecule
Substrate
Enzyme
Chemical reaction occurs
Enzyme
No reactions take place
Enzyme

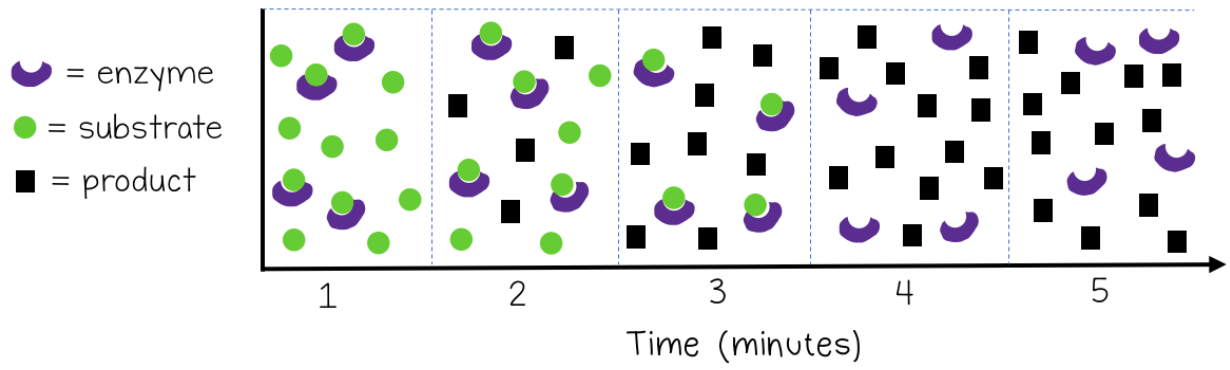
30.


Allosteric inhibitor molecule (noncompetitive)
Substrate
Allosteric Site
Enzyme
Chemical reaction occurs
Enzyme
No reactions take place
Enzyme

31.


= enzyme
= substrate
*Saturation Point
Reaction Rate
0.1 M
0.5 M
1.0 M
1.5 M
2.0 M
Substrate Concentration

32.


= enzyme
= substrate
= product
1
2
3
4
5
Time (minutes)