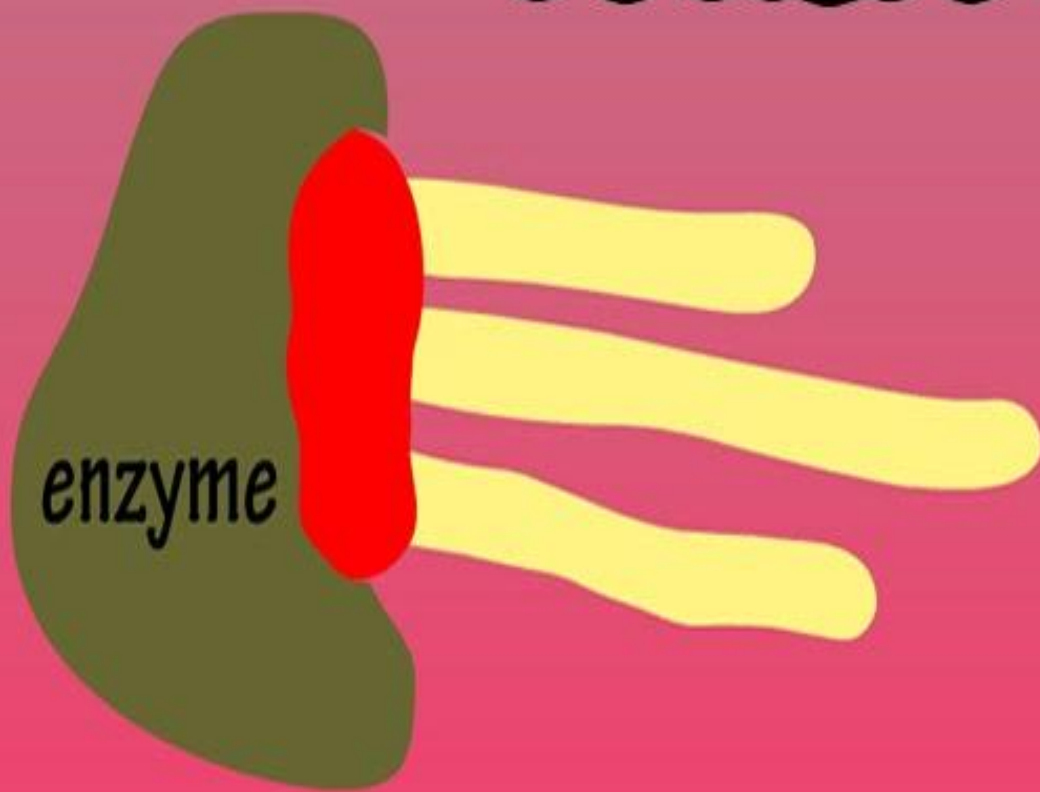


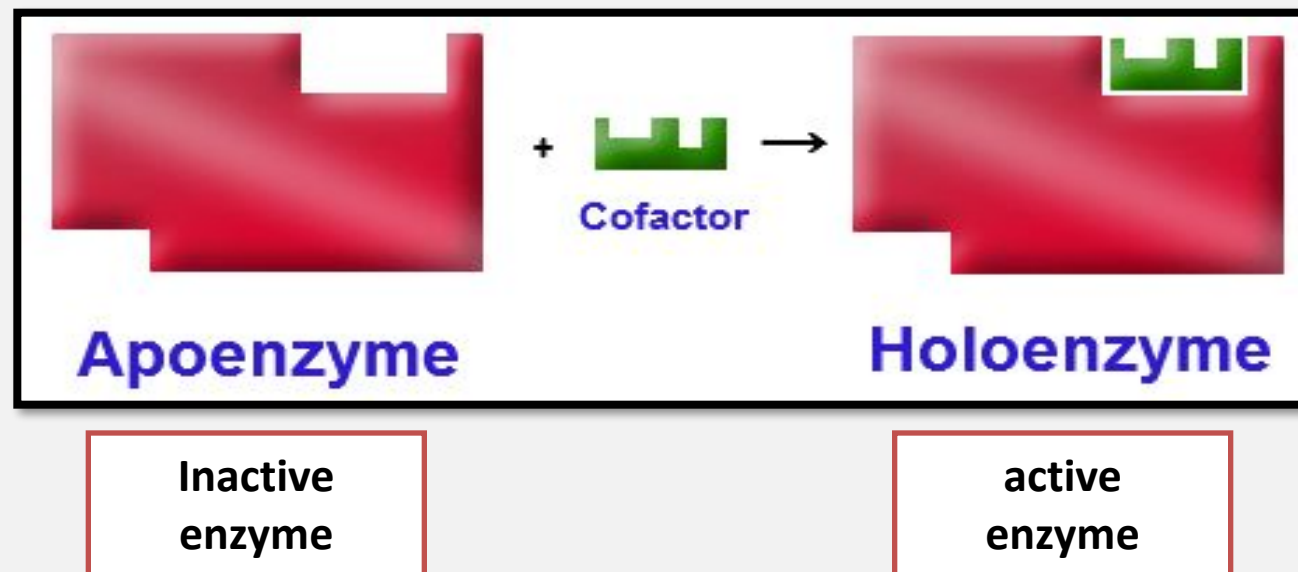
Enzymes

What Are They?





- ❑ Enzymes are protein protein molecules in cells which work as catalysts. Each enzyme is specific to certain chemical reactions in the body.
- ❑ Enzymes are denatured and precipitated by (salt, solvent, some reagent and heat).



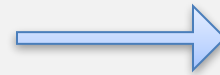
FACTORS AFFECTING ENZYME ACTIVITY

1. Effect of enzyme concentration
2. Effect of substrate concentration
3. Effect of temperature
4. Effect of pH

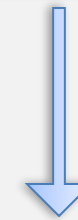


Effect of enzyme Concentration

The reaction independent on substrate concentration



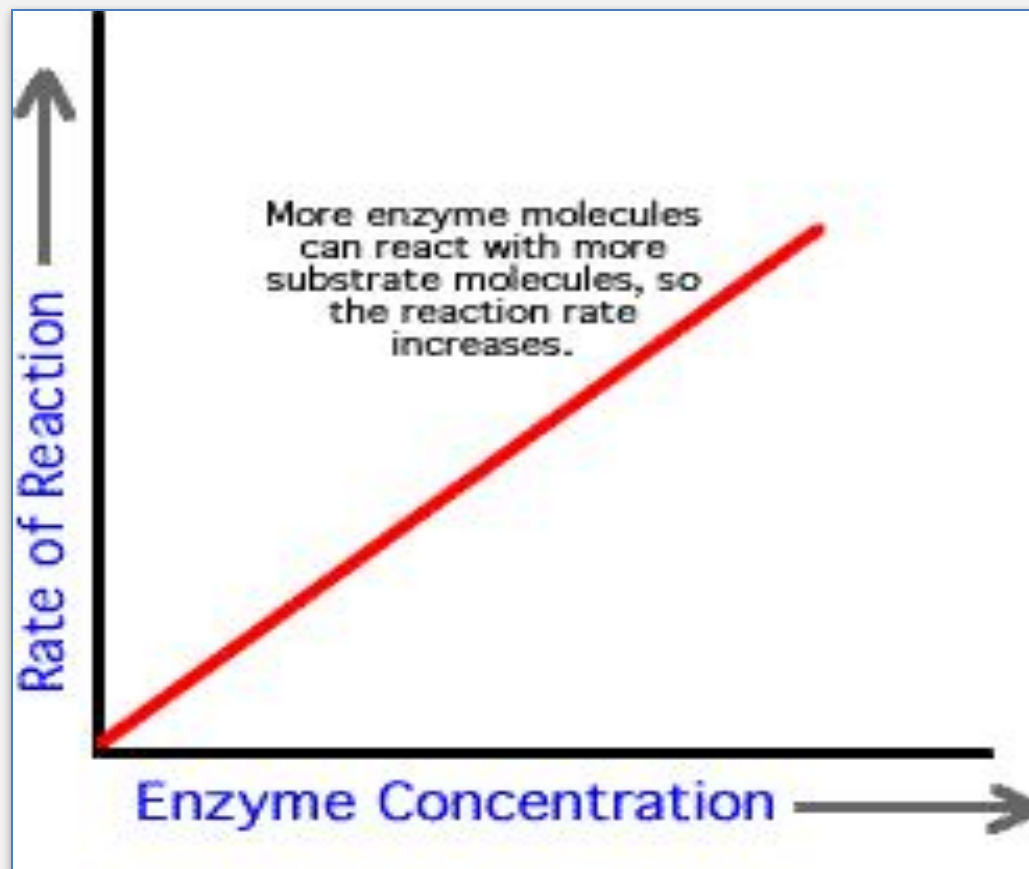
Amount of enzyme gradually increased



Rate of reaction increased



The reaction said (zero order)



Effect of Substrate Concentration

Amount of Enzyme is constant



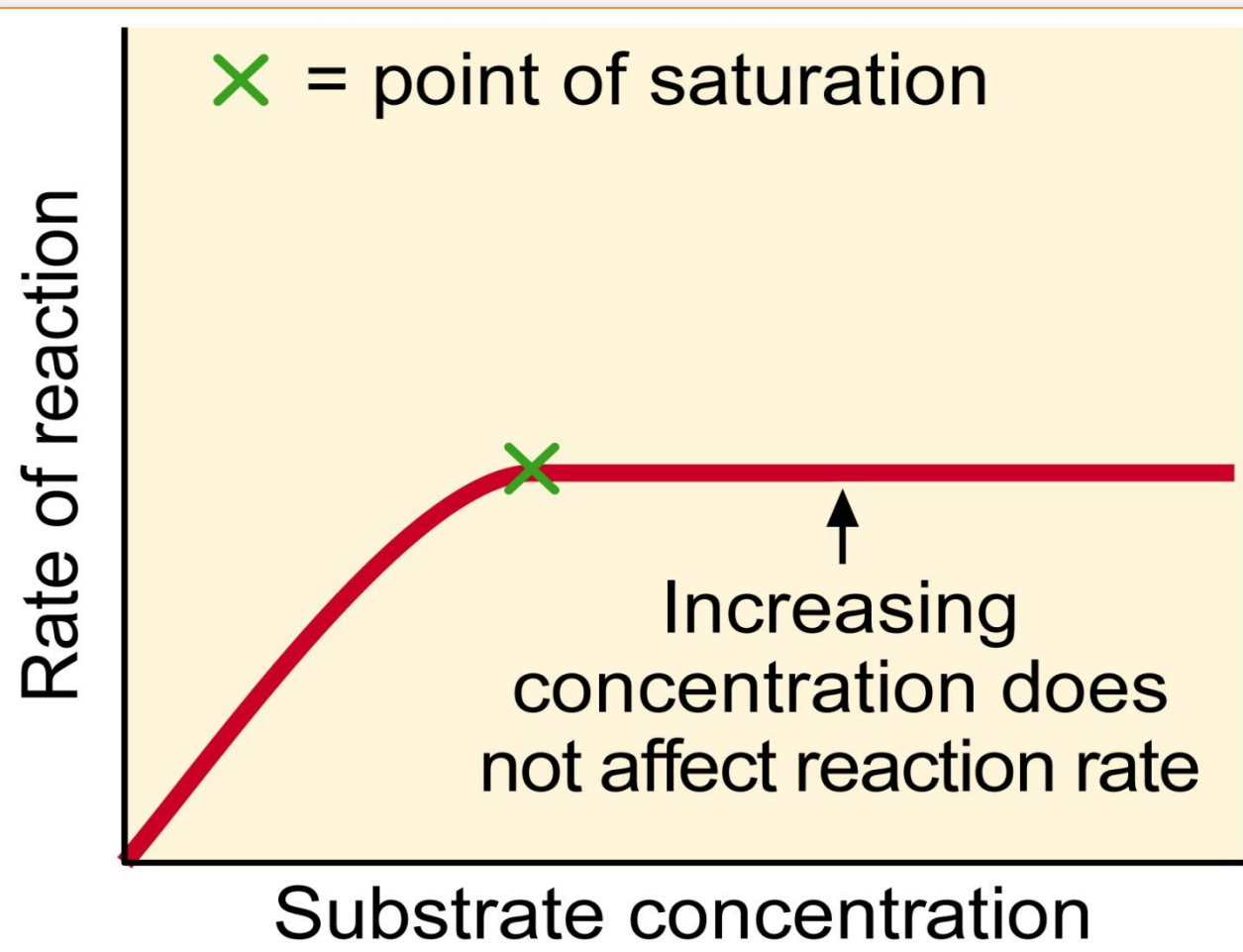
Amount of substrate gradually increased



Rate of reaction increased
Until it (maximum)



Then increase amount of substrate will not increase the rate of reaction



Effect of temperature

Temperature gradually increased



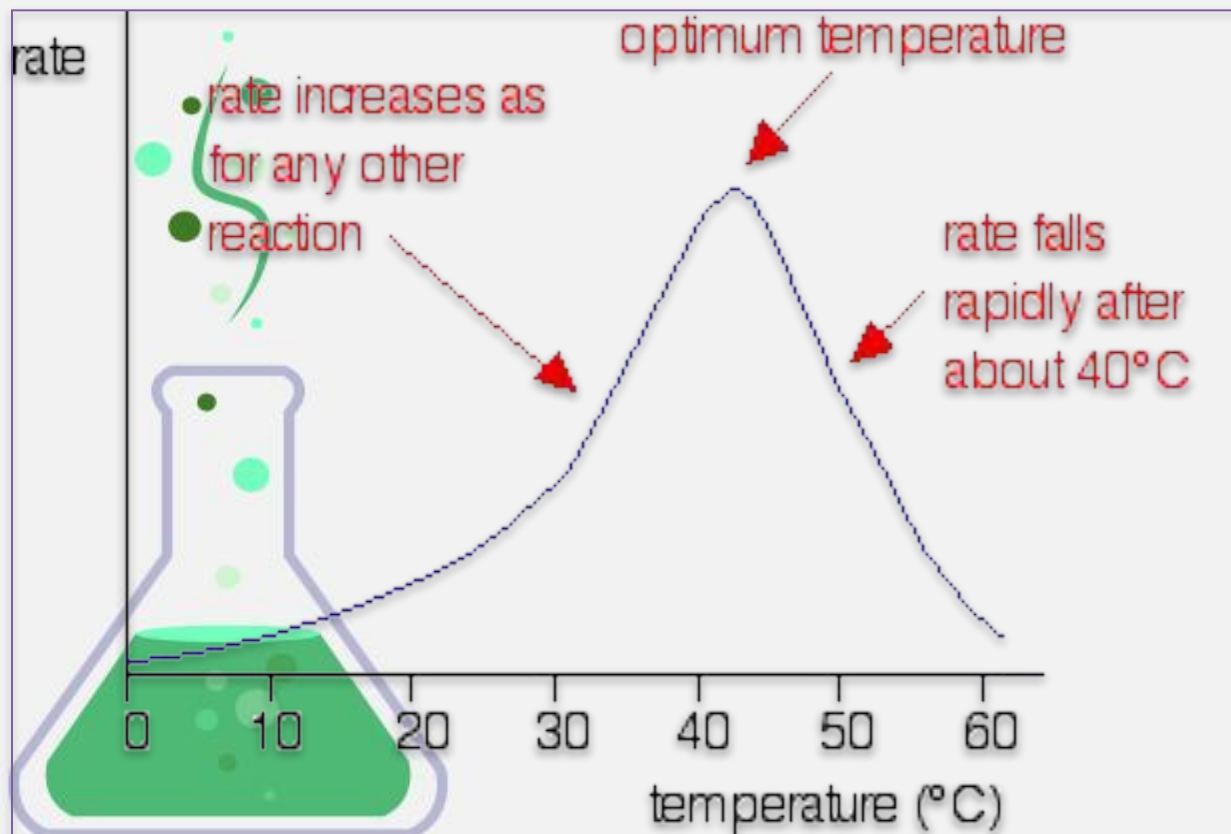
Rate of reaction increased
Until it (maximum)



Then increase
temperature will not
increased the rate of
reaction



Because the enzyme
denaturated

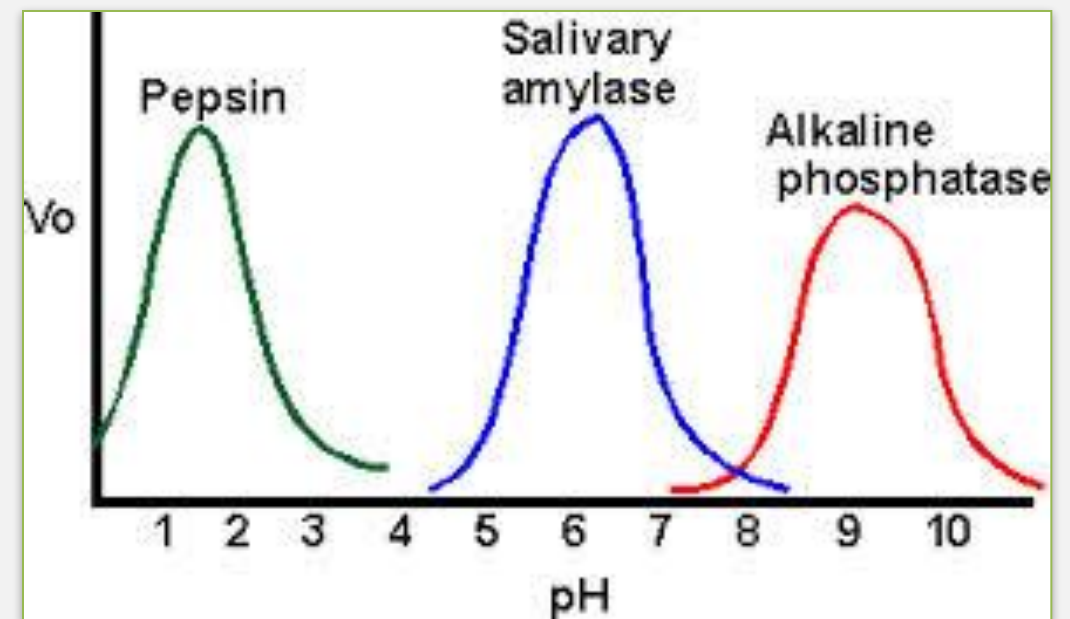
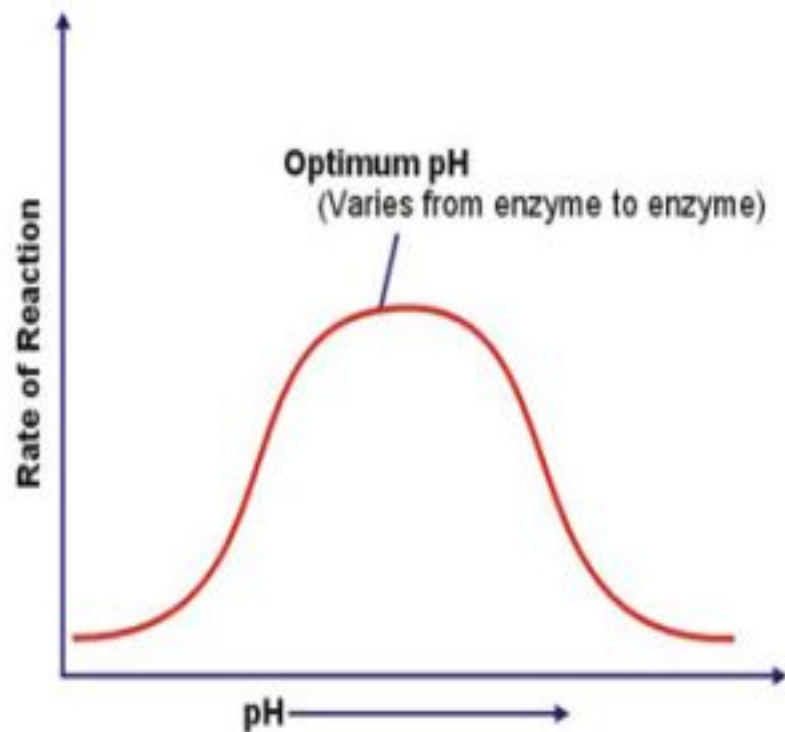


Effect of pH

Each enzymes

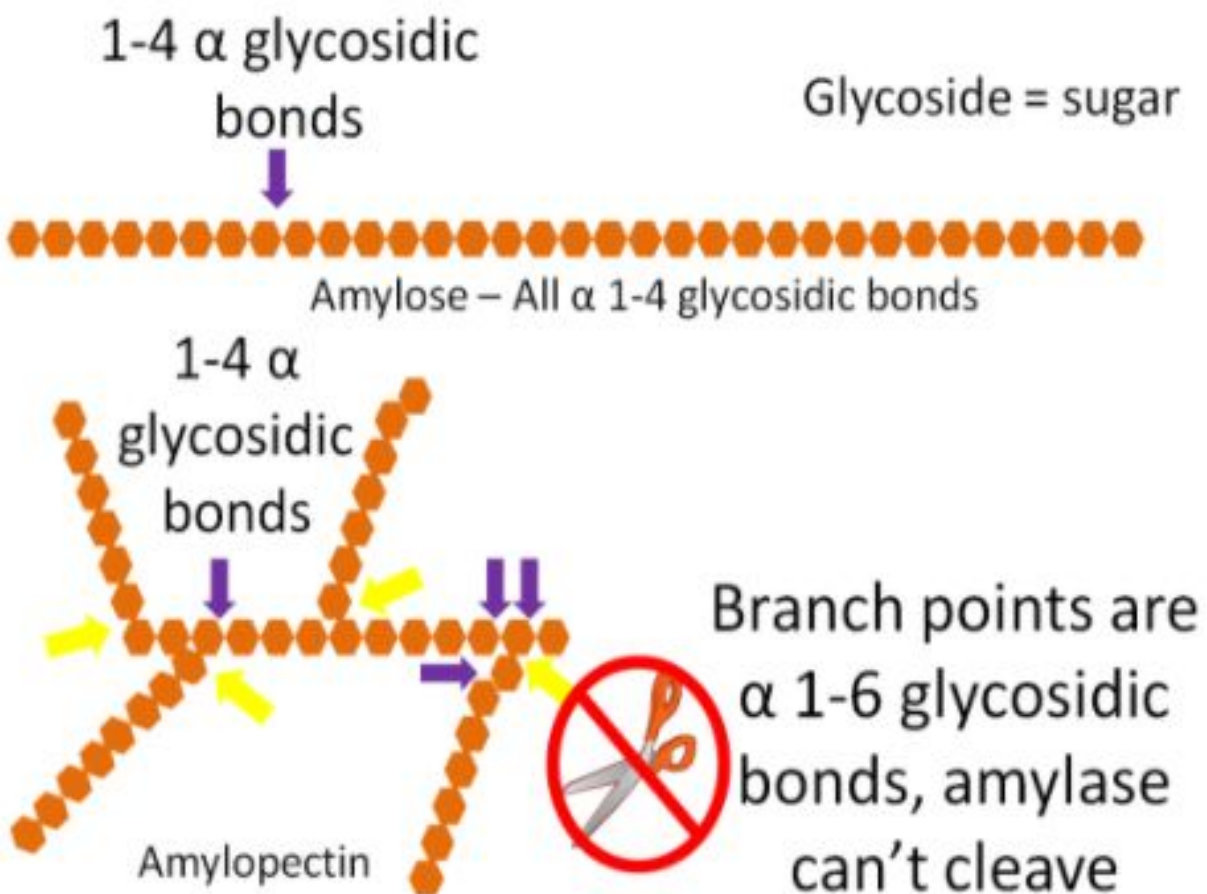


Have optimum pH
for enzyme activity



AMYLASE

- Break down the starch into sugar act on α -1,4-glycosidic bonds.
- Present in human saliva, pancreas, plants and some bacteria.
- Amylase is glycoside hydrolyses.
- In pancreas (α -amylase) breakdown the starch into tri or disaccharide then converted by other enzyme to glucose to supply energy.



3- amount of saliva

Produced disappeared color (because the hydrolysis of starch)



1- (0.5 ml) of starch.

2- (0.5 ml) of iodine reagent.

Produced deep blue