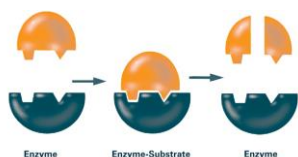


Enzymes catalyse (increase the rate of) specific reactions in living organisms

An organ system in which organs work together to digest and absorb food.

The 'lock and key theory' is a simplified model to explain enzyme action

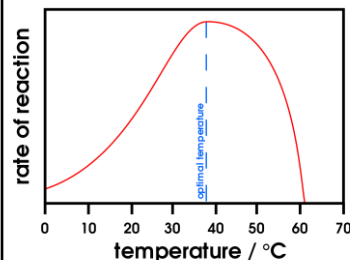


Enzymes catalyse specific reactions in living organisms due to the shape of their active site

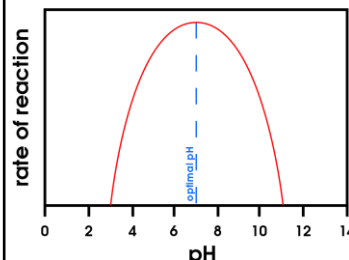
Digestive enzymes speed up the conversion of large insoluble molecules (food) into small soluble molecules that can be absorbed into the bloodstream

The activity of enzymes is affected by changes in temperature and pH

Enzymes activity has an optimum temperature



Enzyme activity has an optimum pH



Enzymes in digestion

The human digestive system

AQA GCSE ORGANISATION Part 1

Principles of organisation

Non-communicable diseases

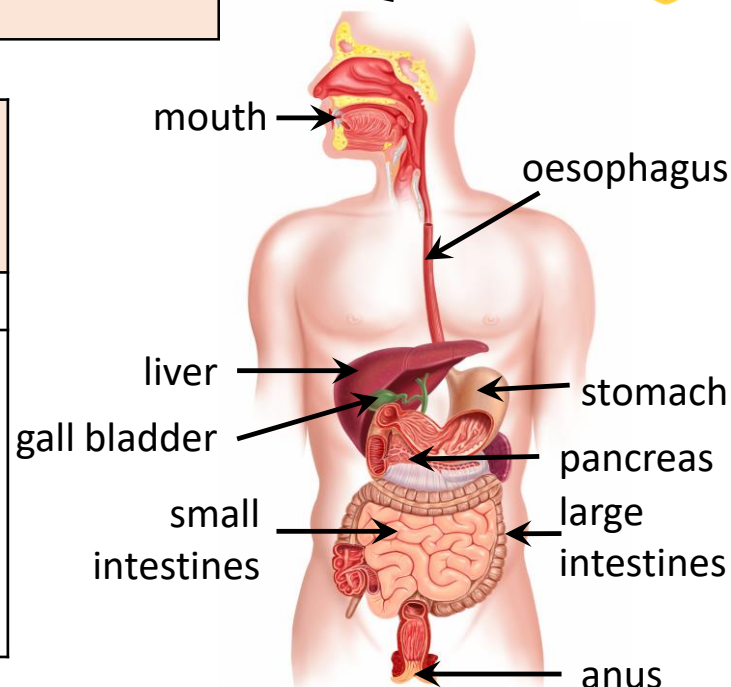
More energy consumed in food and drink than used

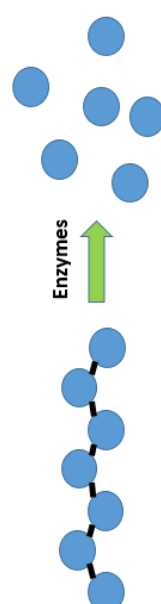
obesity

Linked to increased rates of cardiovascular disease and development of diabetes type 2.

Food tests

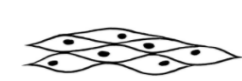
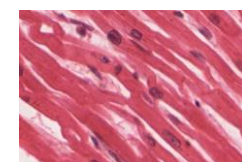
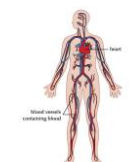
Sugars (glucose)	<i>Benedicts' test</i>	Orange to brick red precipitate.
Starch	<i>Iodine test</i>	Turns black.
Biuret	<i>Biuret reagent</i>	Mauve or purple solution.



Carbohydrases (e.g. amylase)		<i>Made in salivary glands, pancreas, small intestine</i>	Break down carbohydrates to simple sugar (e.g. amylase breaks down starch to glucose).
Proteases		<i>Made in stomach, pancreas</i>	Break down protein to amino acids.
Lipases		<i>Made in pancreas (works in small intestine)</i>	Break down lipids (fats) to glycerol and fatty acids).
Bile (not an enzyme)		<i>Made in liver, stored in gall bladder.</i>	Emulsifies lipids to increase surface area to increase the rate of lipid break down by lipase. Changes pH to neutral for lipase to work

The products of digestion are used to build new carbohydrates, lipids and proteins. Some glucose is used for respiration.

Cells, tissues, organs and systems

Cells		<i>e.g. muscle cells</i>	The basic building blocks of all living organisms.
Tissues		<i>e.g. muscle tissue</i>	A group of cells with a similar structure and function.
Organs		<i>e.g. the heart</i>	Aggregations (working together) of tissues performing a specific function.
Organ systems		<i>e.g. the circulatory system</i>	Organs working together to form organ systems, which work together to form an organism.