AQA GCSE Topic 2 Organisation: Enzymes & Digestion Key Words

Key Word	Definition
Enzymes	Produced by the body to act as biological catalysts which speeds up useful chemical reactions inside the body. All enzymes are proteins
Catalyst	A substance that increases the speed of a reaction, without being changed or used up
Metabolism	The sum of all the reactions happening within a cell
Proteins	All enzymes are proteins; they are made from amino acids. Enzymes have very unique shapes
Active site	All enzymes have a unique-shaped active site. A substance involved in a chemical reaction (the substrate) has to bind to the active site
Substrate	The substance that binds to the active site of an enzyme
Lock and key model	The enzyme's active site and the substrate bind when their complementary shapes match like a lock and key
Induced fit model	Instead of just acting like a lock and key, the active site gets tighter around the substrate once it has bound
Optimum conditions	Best conditions for the enzyme e.g. the right pH and the right temperature
Denatured	When the temperature gets too high or if the pH is too high or too low the shape of the enzyme changes so the enzyme doesn't work anymore as the substrate can no longer bind to the active site
Mechanical digestion	One way food is broken down e.g. by teeth when we chew food and the stomach when it contracts and churns the food
Chemical digestion	The second way food is broken down; it involves enzymes to help break down food
Carbohydrases	Enzymes that break down carbohydrates e.g. starch into simple sugars. An example is amylase. These enzymes work in the mouth and the small intestine
Proteases	Enzymes that break down proteins into amino acids. An example is pepsin. These enzymes work in the stomach and the small intestine
Lipases	Enzymes that break down lipids into glycerol and fatty acids. These enzymes work in the small intestine
Bile	Made in the liver and stored in the gall bladder before being released into the small intestine. Bile neutralises the stomach acid as enzymes in the small intestine need more alkaline conditions. Bile also breaks fat into tiny droplets (emulsification) to help lipase enzymes
Emulsification	Breaking fat down into tiny droplets which helps the lipase enzymes to break down fat, as there's now a larger surface area
Benedict's test for sugars	Benedict's solution will stay blue if no sugar is present at all, but will go green if there's a little bit, yellow if there's a bit more and red if there's lots of sugar
Iodine test for starch	Iodine solution goes blue-black if starch is present and stays orange/brown if no starch is present
Biuret test for proteins	Biuret solution goes pink or purple if protein is

	present and stays blue if no protein is present
Sudan III test for lipids	There will be a layer of red stained lipids if lipids are present at the top of the test tube
Lipids	Fats or oils