

Definitions and Concepts for AQA Biology A-Level

Topic 1 - Biological Molecules

Adenosine triphosphate (ATP): A molecule that acts as the energy currency of cells formed from a molecule of ribose, a molecule of adenine and three phosphate groups.

Amino acid: The monomers containing an amino group (NH_2), a carboxyl group (COOH) and a variable R group that make up proteins.

Benedict's test: A biochemical test used to test for reducing sugars that produces a different colour based on the amount of reducing sugar present.

Biuret test: A biochemical test that produces a purple solution in the presence of protein.

Cellulose: A polysaccharide made of beta glucose monomers that is used as a structural polysaccharide which provides strength to plant cell walls.

Condensation reaction: A type of reaction that joins two molecules together with the formation of a chemical bond involving the elimination of a molecule of water.

Deoxyribonucleic acid (DNA): An information storing molecule made up of deoxyribonucleotide monomers joined by phosphodiester bonds to form a double helix.

Dipeptide: Molecules formed by the condensation of two amino acids.

Disaccharide: Molecules formed by the condensation of two monosaccharides.

DNA helicase: An enzyme that breaks the hydrogen bonds between the two DNA strands in the DNA molecule that is going to be replicated.

DNA polymerase: An enzyme that catalyses the condensation reactions between the new nucleotides in the synthesis of the new DNA strand.

Enzyme: A protein molecule that acts as a biological catalyst and increases the rate of biochemical reactions.

Glycogen: A highly branched polysaccharide made of alpha glucose monomers that is used as the main storage of energy in humans and animals.

Glycosidic bond: A bond between two monosaccharides formed in a condensation reaction.

Heat capacity: The amount of energy needed to raise the temperature of a substance by a specific amount.



Hydrolysis: Breaking a chemical bond between two molecules involving the use of a water molecule.

Induced-fit model: A model of enzyme action that describes how enzymes undergo subtle conformational changes to better fit the substrate.

Iodine test: A biochemical test used to test for the presence of starch.

Lactose: A disaccharide formed by condensation of a glucose molecule and a galactose molecule.

Latent heat: The amount of energy needed for a substance to change state.

Lipid emulsion test: A biochemical test that produces a cloudy emulsion when performed on lipids.

Maltose: A disaccharide formed by condensation of two glucose molecules.

Metabolite: A molecule formed or used in metabolic reactions.

Monomers: The smaller units from which larger molecules are made

Monosaccharide: The individual sugar monomers from which larger carbohydrates are made.

Phospholipid: A type of lipid formed by the condensation of one molecule of glycerol, two molecules of fatty acid and a phosphate group.

Polymers: Molecules made from a large number of monomers joined together.

Polypeptide: Molecules formed by the condensation of many amino acids.

Polysaccharide: Molecules formed by the condensation of many monosaccharides.

Primary structure: The individual sequence of amino acids in a protein.

Quaternary structure: A structure only applicable to proteins with multiple polypeptide chains that describes the interactions of the different chains.

Ribonucleic acid (RNA): A relatively short molecule made up of ribonucleotide monomers joined by phosphodiester bonds.

Secondary structure: The local interactions of the amino acids in the polypeptide chain.

Semi conservative replication: The production of two daughter DNA molecules from one DNA molecule which both contain one original DNA strand and one newly synthesised strand.



Solvent: A substance which other solutes are dissolved in.

Starch: A polysaccharide made of alpha glucose monomers that is used as the main storage of energy in plants.

Sucrose: A disaccharide formed by condensation of a glucose molecule and a fructose molecule.

Tertiary structure: The way that the whole protein folds to make a three dimensional structure.

Triglyceride: A type of lipid formed by the condensation of one molecule of glycerol and three molecules of fatty acid.

