

Definitions and Concepts for CAIE Biology IGCSE

Topic 4: Biological Molecules

*Definitions in **bold** are for supplement only*

Active site - A specific region of an enzyme where the substrate binds and the reaction takes place.

Amino acids - Small molecules from which proteins are synthesised.

Antibodies - Proteins produced by lymphocytes in response to a specific antigen, triggering an immune response. Antibodies have binding sites complementary to a particular antigen.

Antigen - A unique chemical present on the surface of a cell that induces an immune response.

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

Biuret test - A chemical test that produces a purple colour in the presence of protein.

Carbohydrate - A large molecule that is synthesised from simple sugars.

Cellulose - A type of carbohydrate made from many glucose molecules joined together. It is the main component of the cell wall in plants.

Complementary base pairing - Describes how cross-links form between complementary base pairs. A pairs with T and C pairs with G.

DCPIP test - A chemical test for vitamin C. Upon the addition of DCPIP, a colour change from blue to colourless indicates a positive test.

DNA - A double-stranded polymer of nucleotides, wound to form a double helix, that carries the genetic code.

Emulsion test - A chemical test that produces a cloudy emulsion when performed on lipids.

Fats - Lipids that are solid at room temperature.

Fatty acids - Small molecules from which fats are synthesised (along with glycerol). A molecule of fat contains three fatty acid molecules.

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Glucose - A small molecule from which many carbohydrates (e.g. glycogen, starch, cellulose) are synthesised.

Glycerol - A component of fat molecules.

Glycogen - A type of carbohydrate made from many glucose molecules joined together. It serves as an energy store in animals.

Iodine test - A chemical test that produces a blue/black colour when iodine solution is added to a sample containing starch.

Lipids - A group of large molecules that are synthesised from fatty acids and glycerol.

Nucleotides - The monomers of DNA consisting of a five-carbon sugar, a phosphate group and one of four chemical bases (A, T, C, G) attached to the sugar.

Oils - Lipids that are liquid at room temperature.

Protein - A large molecule that is synthesised from amino acids.

Solvent - A substance which other solutes are dissolved in e.g. water.

Starch - A type of carbohydrate made from many glucose molecules joined together. It serves as an energy store in plants.

