

**BIOLOGY AQA****TERM 1 TOPIC LIST****3.1 Biological molecules**

- 3.1.1 monomers and polymers
- 3.1.2 carbohydrates
- 3.1.3 lipids
- 3.1.4 proteins  
enzymes: structure, function and replication
- 3.1.5 Nucleic acids  
DNA and RNA structure and bonding  
DNA replication
- 3.1.6 ATP / energy
- 3.1.7 water
- 3.1.8 inorganic ions and roles in plants

**3.2 Cells**

- 3.2.1 cell structure and ultrastructure (eukaryotic)  
cell structure and ultrastructure (prokaryotic)  
viruses structure and function  
methods of studying cells
- 3.2.2 DNA replication - cell cycle  
cell division: mitosis and meiosis
- 3.2.3 diffusion  
osmosis  
transport of materials (endo- & exo-cytosis)  
structure & properties of cell membranes
- 3.2.4 pathogens and immunity/defence  
vaccines/cell recognition  
HIV  
Antibodies

**TERM 2 TOPIC LIST****3.3 organisms exchange substances with environment**

- 3.3.1 surface area vs volume ratio  
energy and metabolic rate
- 3.3.2 gaseous exchange: adaptations
- 3.3.3 digestion and absorption: enzymes and mechanism
- 3.3.4 Heart and circulation  
Blood vessels structure and function  
Blood: function and cell structure  
transport in plants: xylem and phloem  
tissue fluid - interchange of substance

**3.4 genetic information, variation and relationships between organisms**

- 3.4.1 DNA replication - MUTATIONS  
chromosomes, genes
- 3.4.2 protein synthesis
- 3.4.3 Genetic diversity and mutations during meiosis
- 3.4.4 genetic diversity and adaptation
- 3.4.5 species and taxonomy
- 3.4.6 biodiversity: measurements  
species richness
- 3.4.7 investigating diversity