

Subject	Year	Term
Biology	12	1
Topic		
Biological Molecules		
Content (Intent)		
Prior Learning (Topic) B2b Organisation (Disease & Enzymes)		
<ul style="list-style-type: none"> • Water • ATP • Monomers and Polymers • Condensation reactions • Hydrolysis • Monosaccharides, disaccharides and how to test for them • Polysaccharides including starch, glycogen and cellulose • Testing for carbohydrates, including glucose calibration curves with Benedict's reagent • Lipids – triglycerides, phospholipids, fatty acids (saturated and unsaturated) • Properties of lipids related to structure • Testing for lipids – the emulsion test 		
Future Learning (Topic) Year 12: Proteins, Enzymes & Digestion; Nucleic acids, DNA & Protein Synthesis; Species Diversity, Taxonomy and Biodiversity; Cell Structure; Cell Recognition & Immunity. Year 13: Sensing & Responding to Change, External & Internal; Photosynthesis; Respiration; Energy, Ecosystems & Nutrient Cycles; Mutations & Gene Expression		
How will knowledge and skills be taught? (Implementation)	How will your understanding be assessed & recorded (Impact)	
<p><i>Demos</i> Emulsion test for lipids Iodine test for starch</p> <p><i>Practical work</i> Benedict's test for reducing & non-reducing sugars Quantitative Benedict's test with colorimetry Use of molymods to build molecules</p> <p><i>Written</i> Class notes Past paper questions in class Past paper questions in homeworks</p>	<p>- 3 x standard homeworks (Grade given. Written and verbal feedback. Response expected.)</p> <p>-1 x end of topic test combined with the Proteins, Enzymes & Digestion topic. (Grade given. Verbal feedback to class and individuals.)</p>	
How can parents help at home?		
<p>Look at the topic specific resources on the VLE</p> <p>Use appropriate youtube channels: cognito, freesciencelessons, Crash Course Biology.</p> <p>Encourage students to use the textbook issued.</p> <p>Take an interest! Ask your children what they have learnt and be curious about their learning.</p>		

Helpful further reading/discussion

Reading

New Scientist
Biological Science Review
Magazine
The Biologist Magazine –
Royal Society of Biology
Royal Society of Biology blog

Vocabulary Lists

*Hydrolysis, Condensation,
Glycosidic bond,
Monosaccharide,
Disaccharide,
Polysaccharide, Ester bond,
Glycerol, Fatty acid,
Triglyceride, Phospholipid.*

Careers Links

Biochemistry
Biomedical science
Biological sciences
Medicine
Veterinary medicine
Bioveterinary science
Nursing
Midwifery
Healthcare science
Zoology
Radiology
Ecology