Bellerive FCJ Catholic College

Department: Biology A Level **Year Group: 12**

Term	Learning Focus	Key Knowledge and Skills	Assessment	Challenge and Enrichment
1	**3.1 - Biological Molecules** **3.1 – More Biological Molecules** **3.2 – Cells** **3.2 – Cell Membranes**	• The chemistry of carbohydrates, proteins, lipids and nucleic acids. • Water and its importance. • Enzymes and factors affecting rate of reaction. • Enzyme models. • ATP • Water • Inorganic ions • Cell structure • All cells arise from other cells • Mitosis and cell cycle • Structure of cell membranes • Factors affecting cell membrane permeability. • Methods of transport	Homework on Biological molecules. Homework on Cells and cell structure. Homework on enzyme-controlled reactions. Homework on Cell membranes. Required practical 1. Required practical 2. Required practical 3. Required practical 4.	Miss Estruch Biology Revision (You Tube) - Mind-map topics on Biological molecules and on Cells. https://www.youtube.com/watch?v=uUsNB0csI8s https://www.youtube.com/watch?v=vEzXQGJSXhU Make revision notes on biological molecules from video. A Level Biology (Further extension Resources) Answer questions from the extension resources given. Independent work tasks; Seneca tasks – questions online to be answered.

2	**3.2 – Cells and the immune system** **3.3 – Exchange and transport systems** **3.4 – DNA, RNA and Protein Synthesis** **3.4 – Diversity and Classification**	• T and B cells • Antibodies • Primary and secondary responses • Vaccines • HIV and AIDS • Elisa tests • Surface area to volume ratio • Gas exchange • Digestion and absorption • Mass transport • DNA, genes and chromosomes • Protein synthesis • Mutations and genetic diversity • Adaptations • Species • Taxonomy	Mock tests. Homework on cells and the immune system + test. Homework on transport and exchange systems. Required practical 5. Homework on the heart and cardiac cycle. Homework on DNA, RNA and protein synthesis. Homework on Diversity and classification.	Miss Estruch Biology Revision (You Tube) Make revision notes and a mind map on T and B Cells. A Level Biology (Further extension Resources) Independent work tasks Seneca tasks – answer questions based on tasks set online. Observe and act on feedback and corrections. Mind map exchange and adaptations for exchange using Miss Estruch videos on Youtube. https://www.youtube.com/watch?v=PJ3gDB4cVwo
3	**3.4 – DNA, RNA and Protein Synthesis** **3.4– Diversity and Classification** **3.5 – Photosynthesis (A2 CONTENT)**	• DNA, genes and chromosomes • Protein synthesis • Mutations and genetic diversity • Adaptations • Species • Taxonomy • Light dependent and light independent reactions.	Required Practical 6 Y12 mock examinations Homework on Diversity and classification. End of year review tests. Required practical 7. Required practical 8.	Miss Estruch Biology Revision (You Tube) Make revision notes and a mind map for DNA/RNA. https://www.youtube.com/watch?v=ndrN_W1snmg Mind map protein syntheisis. Use zigzag resources to consolidate learning. A Level Biology (Further extension Resources) Independent work tasks; Seneca tasks – Answer questions from online tasks set.

	3.5 – Respiration (A2 CONTENT)	• Chloroplast structure • Redox reactions • Stages of respiration – glycolysis, link reaction, Krebs cycle, oxidative phosphorylation	Homework on Photosynthesis and respiration. Test on Photosynthesis and respiration.	