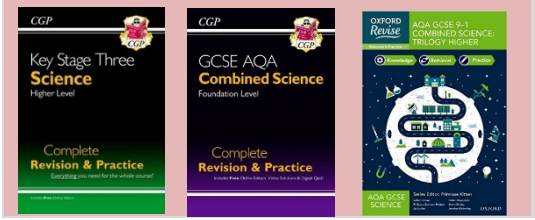
The English Martyrs Catholic School and Sixth Form College

Biology Year 9	Module 1	Module 2	Module 3
Topic Theme and Intent	Students revisit the topic of cells, building upon the foundations from year 7. They compare the cells of unicellular and multicellular organisms. They study this to develop an understanding in the differences in structure, and cell division.	Students focus on stem cells and their potential prior to differentiation. They also revisit cell transport from year 7, looking at other methods such as osmosis and active transport.	Students revisit the digestive system from year 8, building upon the ideas of digestion and absorption of nutrients, and the conditions that maximise this process.
Knowledge	• Prokaryotic organisms and testing antimicrobial chemicals. • Eukaryotic cells of multicellular organisms and the significance of the nucleus. • Cell division and cancer. • The Microscope and its associated skills.	• Stem cells and cell differentiation. • Avoidance of stem cell rejection in medicine. • Exchanging substances by diffusion, • Exchanging substances by osmosis. • Exchanging substances by active transport.	• Organisation of multicellular organisms. • The digestive system, enzymes, substrates, and food tests. • Factors that affect enzyme activity – pH and temperature.
Skills	Test the laboratory for microorganisms, and use the microscope to produce a scientific drawing.	Investigate optimal conditions for food storage.	Test food for different nutrients. Investigate optimal conditions for enzyme activity in the digestive system.
Literacy Links	**Reading –** Students will read about the development of the microscope. **Writing –** Students start to communicate scientific ideas and concepts through writing. **Oracy –** Students start to use scientific vocabulary in discussion and question and answering.	**Reading –** Students will read about anaerobic and aerobic respiration. **Writing –** Students practise communicating scientific ideas and concepts through writing. **Oracy –** Students practise the use scientific vocabulary in discussion and question and answering.	**Reading –** Students will read about the Miraculous Wound experiment. **Writing -** Students will communicate scientific ideas and concepts through writing. **Oracy –** Students use scientific vocabulary in discussion and question and answering.
Essential Vocabulary	Eukaryotic, Prokaryotic, Mitosis, Benign, Malignant, Magnification, Resolution.	Differentiation, Specialisation, Diffusion, Osmosis, Active Transport, Lumen, Concentration.	Enzymes, Substrates, Biological Catalyst, Denatured

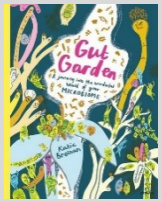
Disciplinary Reading

CGP Books – KS3 Science & GCSE Combined Science, & Oxford Revise.

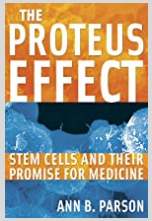


Reading for Pleasure

K. Brosnan – Gut Garden



A.B. Parson – The Proteus Effect



J. Petro-Roy – Good Enough