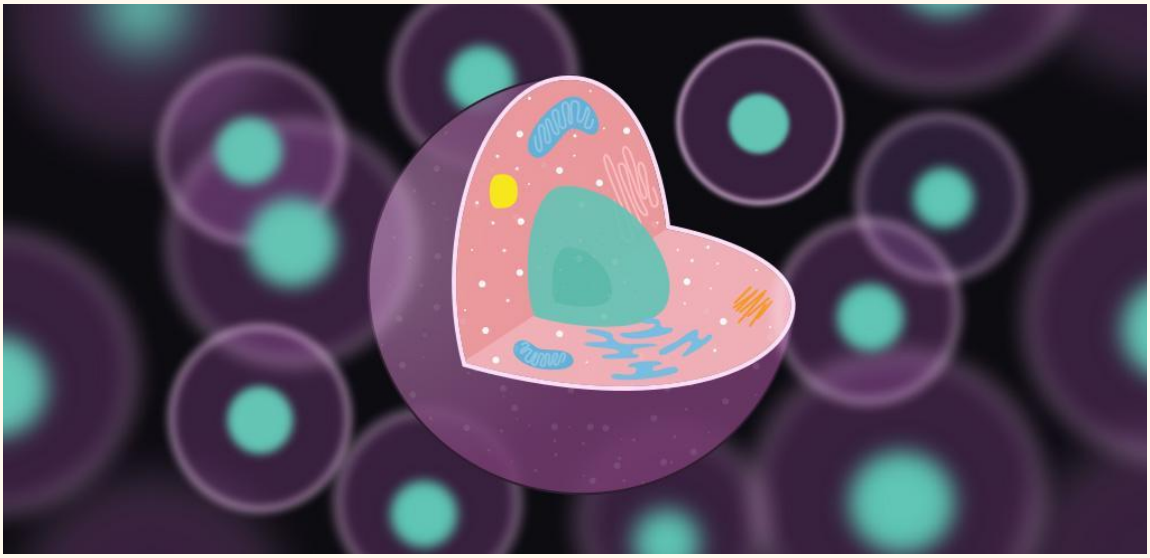
AQA A-LEVEL BIOLOGY King Edward VI School, Lichfield
Dr D. Squire

Introduction to AQA A-Level Biology

Bridging Information



INTRODUCTION

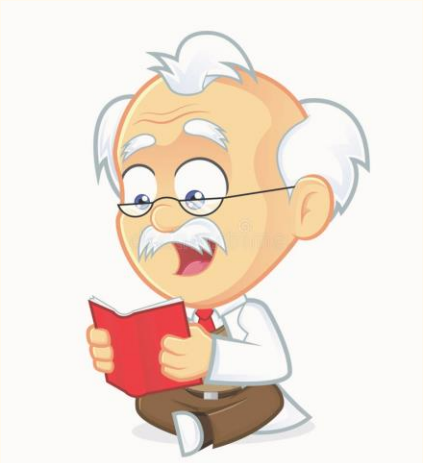
Welcome to all of you and thank you for your interest in studying Biology at A-level (AQA) with us at King Edward VI School. Biology is one of the most exciting and dynamic subjects available at A-level and will not only increase your understanding of the living world, but will also equip you with valuable transferable skills for life. The A-level course both revisits topics covered at GCSE (such as cell structure) with increased detail and complexity, but also introduces new and fascinating topics from cutting edge science (such as epigenetics and gene-technology). Details of the content covered in the course and how they are assessed can be found here…

Specification at a glance

Starting points...

Whether you have studied "Separate Sciences" or Combined Sciences" at GCSE, with AQA or an alternative examination board, will not determine your success at A-level and all the content in the specification will be delivered and supported by a team of subject experts in the Biology department. However, if you would like to get a head-start with the subject, we have some suggestions of how you might use your time to prepare and some activities to increase your understanding from GCSE.

Secrets to success.



"Why did you choose to study Biology?"

This is a simple question that is often asked by interviewers for University and job applications and is often answered with the response *"because it fascinates me!"*. Excellent we all think... "*So what have you done to pursue your fascination, other than turn up to class?"*... Hmmmmm.

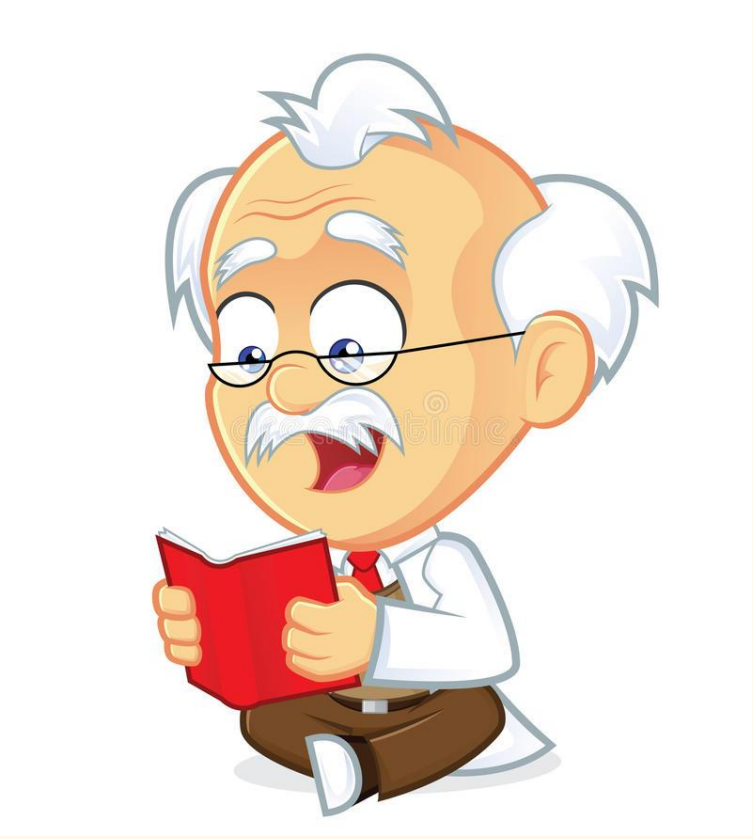
"Reading is essential for those who seek to rise above the ordinary." Jim Rohn.

If you are truly inspired by a subject, you should be motivated to pursue it outside of lessons and the best way to do this is by reading.... Anything related to biology. Books, magazines, webpages even twitter (if you follow reputable science accounts). To give you some ideas, the Biology staff have compiled a reading list of some of their favourite books and periodicals on Biology and Science. It isn't essential that you read them all, but while you have got some extra time, try some of them.

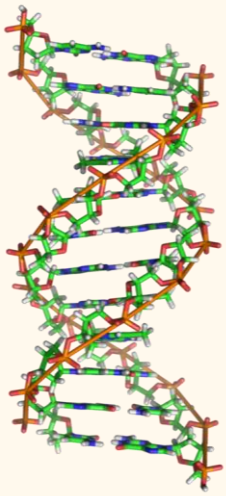
Please follow this link to find the list of books and journals recommended by the department.

We also use the Kerboodle online learning suite to aid the delivery of the course. If you have a kerboodle login already, you can access the digital text book for A-level at any time. Perhaps try

reading the first few chapters on “Biological Molecules” (the building blocks of all living things, which is the topic we will start with in September). If you don’t have access, don’t worry, we will get you set up when you arrive. In the meantime, we’ve included some reading material and activities for you to have a go at.



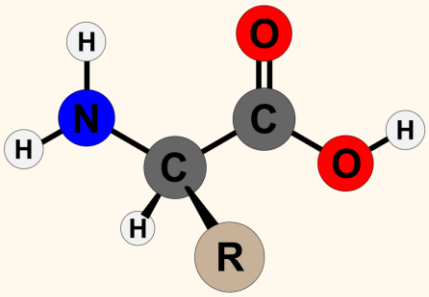
The Molecules of Life



[Learning material found here.]

Task 1 Carbohydrates

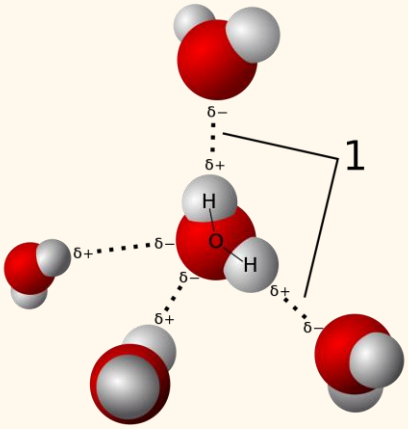
Despite the enormous variety of living things on our planet, the basic molecules that we are made of are very similar, providing compelling evidence that all life is related through a shared evolutionary history. Some of the most common "building blocks" of living things are Proteins, Carbohydrates, Lipids and Nucleic acids (such as DNA). The structure and properties of these molecules determines their functions in the living thing, so we spend the first term of A-level exploring each class in detail, starting with carbohydrates. To aid the transition into year 12, we would like you to complete some self study into the basic biochemistry of Carbohydrates (material found here).



Please use the extract from the textbook and the powerpoint on carbohydrate biochemistry to make your own notes on monosaccharides, disaccharides and polysaccharides. When you have completed the learning, have a go at the self-assessment and mark your progress.

Task 2: The Importance of Water

As you probably already know, much of the surface of the Earth is covered in liquid water and much of the mass of a human is taken up with water. Although this molecule is not part of our biomass (living mass), liquid water is fundamental to how our cells and tissues work and to Earth's ability to support life. With this in mind we would like you to spend some time completing some self study on "The Importance of Water to Life on Earth". To explore how the fascinating and unusual chemical properties of water [(introduced



by Dr Squire in this video) make it essential to support life, please complete the self study activities found here to create a poster on the importance of water, linking it's biochemical and physical properties to its functions in supporting life.