Biology
Preparing for A Level

If you are considering studying Biology next year, then these are activities that you should seriously consider completing over the next few months to prepare yourself for the very large step up to A Level from GCSE.

The activities are divided into:

Essential - suggested as good preparation for the course.
Recommended - suggested to support the essential activities for the course
Optional - suggested to support wider learning around the subject; you are expected to do this independently at A level.

A Level Specification
Read through the 'Biology' specification to gain an understanding of the expectations of the course.
You can find this by Googling "AS and A-Level Biology specification".

Digital Resources
Access the digital resources that are available for you such as Crash Course videos on YouTube and at KhanAcademy/Biology

Essay Preparation
One aspect of the Biology course that requires some additional work is the 25 mark essay question which can be found at the end of paper 3. Using your knowledge of GCSE Biology, write a mind map on content you could discuss in each of the following essay titles. Use your GCSE revision guide for ideas. For example, one thing you could discuss in shape are enzymes.

1. The importance of shape in Biology
2. The importance of cycles in Biology
3. How energy is transferred between organisms.

In a different colour pen can you add extra detail to this work. A good place to find the information is via the use of "Crash Course" videos on YouTube.

In addition to this there are 3 marks awarded for knowledge that you can bring from outside the specification. Use the following websites to research and write a paragraph on anything that links to each of the above topics.

Exam Questions

The following information for these exam questions can be found in the online reading section and on Khan Academy.

Describe the behaviour of chromosomes during mitosis and explain how this results in the production of two genetically identical cells. (7 marks)

In the UK, children are vaccinated against this disease. Describe how vaccination can lead to protection against bacterial meningitis. (6 marks)

Contrast the structure of a bacterial cell and the structure of a human cell. (5 marks)

Recommendations to watch
Watch the following videos and make notes on the important facts covered in the content.

The fight against Cancer

A New Superweapon in the Fight Against Cancer
Available at :
http://www.ted.com/talks/paula_hammond_a_new_superweapon_in_the_fight_against_cancer?language=en

The importance of bees

Why Bees are Disappearing
Available at :
http://www.ted.com/talks/marla_spivak_why_bees_are_disappearing?language=en

Drugs

Why Doctors Don't Know About the Drugs They Prescribe
Available at :
http://www.ted.com/talks/ben_goldacre_what_doctors_dont_know_about_the_drugs_they_prescribe?language=en

Growing new organs

Growing New Organs
Available at :
http://www.ted.com/talks/anthony_atala_growing_organs_engineering_tissue?language=en

Online Reading

The Cell
Available at:
http://bigpictureeducation.com/cell
The Immune System
Available at:
http://bigpictureeducation.com/immune
Exercise, Energy and Movement
Available at:
http://bigpictureeducation.com/exercise-energy-and-movement

To access this reading use the attached QR code, click "explore our resources", and you will then find all of the resources for the above sections. Please feel free to do reading beyond the suggested areas outlined above.

Tips!

Tips for the Essay Question
- This question requires an answer in essay from which assesses the way you can link AS and A-Level content together, at this stage you are not expected to be able to do this. We will be happy if you can just discuss ideas from the A-Level content at this stage.

Tips for the Exam Questions
- You are encouraged to answer all exam questions (other than the essay) in bullet points. It is vital at A-Level to provide detail and "tell the whole story" rather than giving short vague answers.

SHIRELAND COLLEGIATE ACADEMY
An altogether better place to learn

SHIRELAND COLLEGIATE ACADEMY TRUST