A level Biology Transition Work

A level Biology will use your knowledge from GCSE and build on this to help you understand new and more demanding ideas. Here are some tasks to help make sure your knowledge is up to date and you are ready to start studying.

Core Preparation: You must complete all of these tasks:

Look at the OCR Biology A specification, available on the OCR website. We will start by teaching Module 2 - Foundations in Biology so read over this Module so you know what to expect from the start of your course

- One of the most important skills you will need to develop as an A level Biology student is how to learn independently and make good notes. We often set homework to make notes on a topic so we can use class time to apply the information. The Cornell notes method helps you to better engage with material and learn it better as a result. This video shows you how to take them
- Use the Cornell notes method to **make notes on water** using this video and this video. You will need to **bring these notes to your first Biology lesson** *and* use them **to produce an A3 annotated information poster to illustrate** how hydrogen bonding occurs between water molecules, explaining the role of water in living organisms and linking this to its properties. It should include text and images; be visually stimulating, key words and definitions with short explanations of key ideas.
- A level Biology contains at least 10% maths, so here are a few **Maths problems relating to water for you to complete**: If a raindrop has a diameter of 7mm, what is its volume to 2dp? Another raindrop has a diameter of 0.5cm, what percentage smaller is it than the original raindrop to 2dp? If you dissolve a 5g teaspoon of sucrose (sugar) in your 200ml cup of tea, what percentage is the solution? Give your answer to 2 significant figures. If you have 0.006dm^3 of water how many mls do you have? 73876329 raindrops fell in an hour, what was the rate of rainfall per minute? Give your answer in standard form.

Additional Preparation: You should complete some of these tasks:

Watch some TED talks: A New Superweapon in the fight against Cancer, Why Bees are disappearing, Why Doctors don't know about the drugs they prescribe or Growing New Organs.

Read a Science book (all available on Amazon): A Short History of Nearly Everything by Bill Bryson, Frankenstein's cat by Emily Anthes or Junk DNA by Nessa Carey.

Visit London Zoo in person or **take a look at their conservation work** on their website
Complete a research activity, using The Big Picture publication from the Wellcome Trust

Research for Fun:

- Cells - the building block of life. Visit the STEM Learning Website, watch the videos and read the articles. **Producer a poster summarising your research**.
- DNA and the Genetic Code. In living organisms nucleic acids (DNA and RNA have important roles and functions related to their properties. Watch the videos, read the information on these websites and **produce a poster or Powerpoint presentation**. BBC. S-Cool. TED.

Residential Field Course :

The A Level Biology course involves a 3 day residential trip to cover the Environmental Sampling part of the course. This trip will take place in March 2024 and will cost around £325. Students will receive a letter about the trip and details of a payment plan during induction.

Scientific and Investigative Skills

As part of your A level, you will complete a series of practical assessments, this is 15% of the exam. This will require you to carry out practical activities as well as planning how to do them, analysing the results and evaluating the methods. **Select five related words and produce a glossary** from list:

accuracy, anomaly, calibration, causal link, chance, confounding variable, control experiment, control group, control variable, correlation, dependent variable, errors, evidence, fair test, hypothesis, independent, null hypothesis,

precision, probability, protocol, random distribution, random error, raw data, reliability, systematic error, true value, validity, zero error,

Enrichment

There are various enrichment activities that you can take part in such as the Biology Olympiads and Science Symposium.