

Year 12 Transition

Welcome to Nailsea Sixth Form



KS5 Subject: **BTEC Forensic and Criminal Investigation**

Objectives for Transition Tasks:

- To start to develop expected 6th form study skills, including independence
- To culture an interest and passion for your chosen subject through enquiry
- To learn core concepts of the subject to use in your studies

Watch:

<https://www.youtube.com/watch?v=gcTuQpuJyD8>
<https://www.youtube.com/watch?v=L0k-enzoeOM>
<https://www.youtube.com/watch?v=qCLmR9-YY7o>

<http://ed.ted.com/lessons/insights-into-cell-membranes-via-dish-detergent-ethan-perlstein>
<http://ed.ted.com/lessons/what-do-the-lungs-do-emma-bryce>

There are lots of programs about forensic science!

<https://www.bbc.co.uk/iplayer/episodes/b014hl0d/digging-for-britain>

Watch the news or read a newspaper. It can be interesting to compare the coverage given to cases by different media outlets or different newspapers.



Read:

For the Sciences – revision guides particularly including higher / triple content will be useful grounding for the BTEC forensic science course (you will study fundamental topics in biology, chemistry and physics).

Criminology

<https://www.crimeandjustice.org.uk/>
<https://www.gov.uk/government/organisations/hm-prison-service>
<https://www.avonandsomerset.police.uk/>



Independent Task (to be submitted):

Cells

The cell is a unifying concept in biology, you will come across it many times during your two years of A level study. Prokaryotic and eukaryotic cells can be distinguished on the basis of their structure and ultrastructure. In complex multicellular organisms cells are organised into tissues, tissues into organs and organs into systems. During the cell cycle genetic information is copied and passed to daughter cells. Daughter cells formed during mitosis have identical copies of genes while cells formed during meiosis are not genetically identical.

Task

Produce a one page revision guide to share with your class in September summarising one of the following topics: Cells and Cell Ultrastructure, Prokaryotes and Eukaryotes, or Mitosis and Meiosis. Whichever topic you choose, your revision guide should include: Key words and definitions, clearly labelled diagrams and short explanations of key ideas or processes.



Aim Higher Task:

Exchange and Transport Organisms need to exchange substances selectively with their environment and this takes place at exchange surfaces. Factors such as size or metabolic rate affect the requirements of organisms, and this gives rise to adaptations such as specialised exchange surfaces and mass transport systems. Substances are exchanged by passive or active transport across exchange surfaces. The structure of the plasma membrane enables control of the passage of substances into and out of cells.

Task: Create a poster or display. Your poster should either: compare exchange surfaces in mammals and fish or compare exchange surfaces in the lungs and the intestines. You could use a Venn diagram to do this. Your poster should: Describe diffusion, osmosis and active transport. Explain why oxygen and glucose need to be absorbed and waste products removed. Compare and contrast your chosen focus.



DEADLINE FOR TRANSITION TASK: Please bring to your first lesson in September.